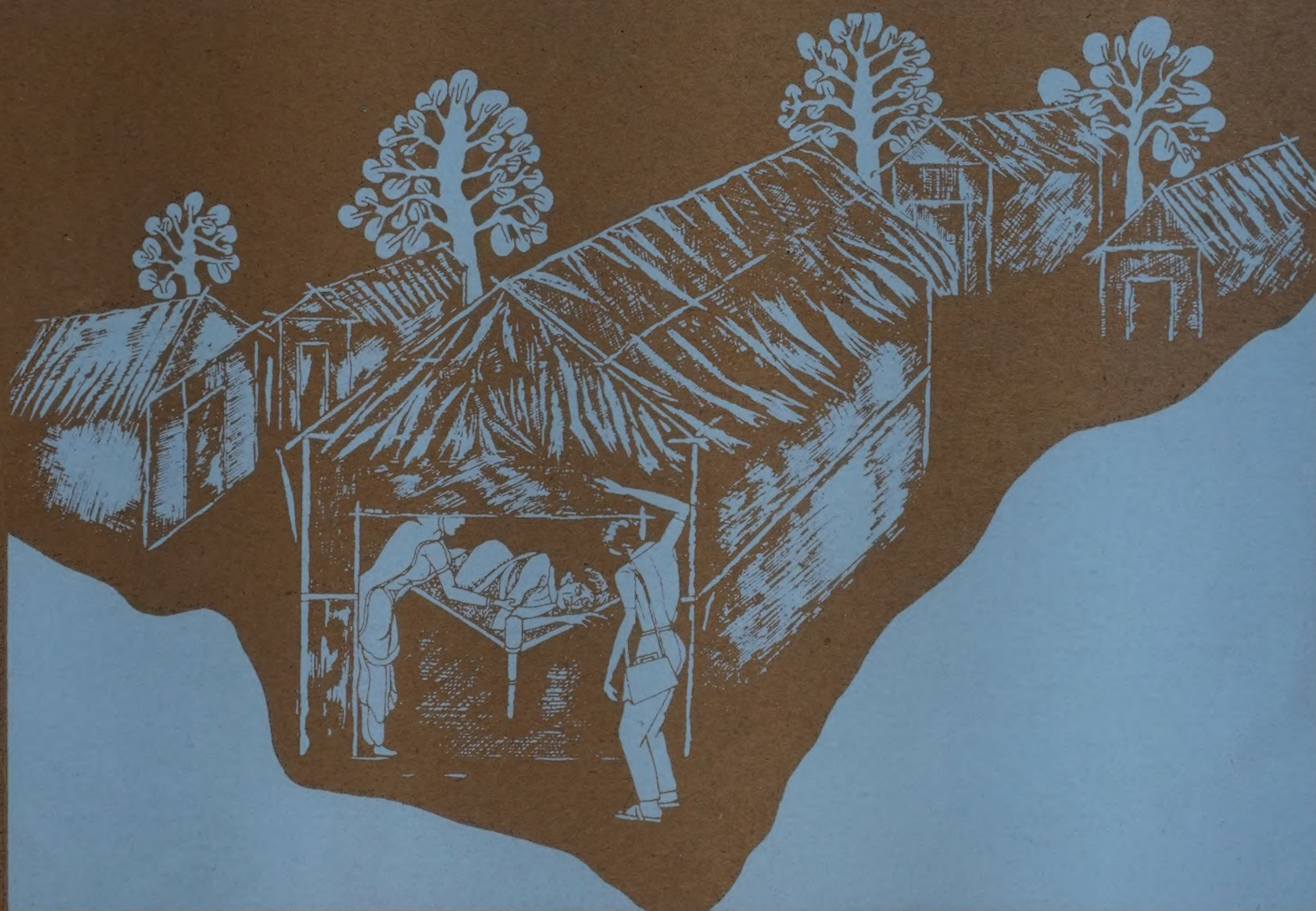


# KNOWING HEALTH WORKERS



A STUDY OF COMMUNITY HEALTH WORKERS  
KNOWLEDGE, SKILLS, ATTITUDES AND  
COMMUNITY OPINION.

Dr. SHAM ASHTEKAR  
ARCHANA DAMLE

Dr. DHRUV MANKAD  
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A CDRD STUDY

1595



**Community Health Cell**  
*Library and Documentation Unit*  
**BANGALORE**









# **A PROFILE OF COMMUNITY HEALTH WORKERS IN VACHAN PROJECT**

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**A REPORT COMPILED BY  
CENTRE FOR DEVELOPMENT RESEARCH AND DOCUMENTATION  
PUNE**

**(NOVEMBER 1994)**



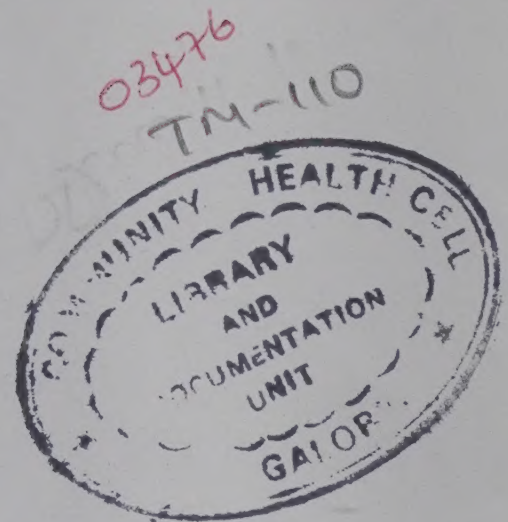


A PROFILE OF  
COMMUNITY HEALTH WORKERS  
IN NACHAN PROJECT

DR. SHAM LAKSHMAN  
DR. DINESH K. SHARMA  
SARITA KANAUDE

A REPORT SUBMITTED  
TO THE DIRECTOR, HEALTH AND FAMILY WELFARE  
GOVT. OF INDIA

GOVERNMENT OF INDIA





# KNOWING COMMUNITY HEALTH WORKERS

A REPORT ON

THE STUDY OF THE KNOWLEDGE, ATTITUDES, RECORDS  
AND SKILLS OF COMMUNITY HEALTH WORKERS IN  
VACHAN'S HEALTH PROGRAMME

WITH

A REPORT ON THE STUDY OF THE COMMUNITY'S OPINION  
ABOUT THE COMMUNITY HEALTH WORKERS

**"THERE IS NO LONGER ANY PLACE FOR DISCUSSION OF *WHETHER* CHWS CAN BE  
KEY ACTORS IN ACHIEVING ADEQUATE HEALTH CARE. THE QUESTION IS *HOW* TO  
ACHIEVE THEIR POTENTIAL"**

STEPHEN FRANKEL

DR. SHAM ASHTEKAR  
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**JAN 26, 1995**







## FOREWORD

In the mid seventies, Directorate of Health Services Maharashtra, realized that the root cause of relative inefficacy of the major national health programmes, and failure of even the best efforts by Governmental and Non-Governmental Organizations (NGOs) to provide the minimum basic health needs of the people in the rural areas, was negligence to pursue and solicit community participation. The Comprehensive Health Care Delivery : Padgha Project, in Thane District of Maharashtra, was launched in October 1976. The major objective of this experiment was to test a community oriented comprehensive Health Care Programme which was functionally linked with the Governmental Health Services delivery.

Padgha Project was the forerunner of the Community Health Workers Scheme which was launched by Government of India in October 1977. Most of the provisions of Padgha Project were incorporated in the national scheme, but there were crucial deviations and the research aspects were lacking altogether. In the diverse and incomparable situations in the vast country, any such programme has to be modified and adapted to suit the local conditions.

About 17 years have passed, and it is tragic and painful to note that in our national efforts to provide primary health care to the people, we have the greatest setback posed by virtual non-functioning of both the Multipurpose Health Worker' scheme. Successful and the Community Health Workers' Scheme management of these mutually complimentary schemes was essential and key element for provision of Health For All by 2000 AD through the primary health care approach.

Revival of the two schemes seems almost infeasible. Nevertheless, considering the indispensable role people themselves have to play, alternative ways and mechanisms for community involvement and active participation for health promotion and improved quality of life, have to be explored. It is in this respect the "Overview of CHW Programmes", the study by CIDRI at Vachan assumes much significance.

It appears that even the concept of community health worker has not been clearly understood and accepted. The Chinese barefoot doctors were not CHWs, but they were unequivocally part of the community and responsible for the people. Unfortunately, this key element was not only fully lost sight of in functioning of the CHW scheme, but CHWs also were made implicitly a part of Health Services set-up and made to function as subordinate to the Health Workers. In effect, idealism and soul of the scheme disappeared.



In the past, I was a strong advocate of integration of medical and public health services. But experiencing the great damage it was brought about to public health in India, I vehemently feel that **it was our mistake and we should separate them out.** The curative function of the CHWs was designed **with a purpose of providing them** with some credibility with the people so that they would be able to deliver basic health care initiatives much more effectively. But in practice, for several reasons and mainly because of faulty selection of the CHWs and their training, treatment of minor ailments superceded over all other roles. Unfortunately, this study by CDRD almost entirely covers curative function. It is essential to supplement this study with a project covering more basic aspects of CHW concept so as to search an alternative.

Methodology and thoroughness of the CDRD study are commendable. Evaluation of training of the CHWs is very enlightening. It reveals many deficiencies and lapses in training. Such assessment would be useful in revising both the contents and methodology of training.

For all those who are interested and are responsible for planning and providing public health services to the people, this work should arouse interest in undertaking health services research as integral part of management and administration. This report will be useful for both the academicians and administrators alike.

**Pune**

**15th January 1995**

**Dr. N. S. Deodhar.**



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# **SECTION I**

## **PREAMBLE**

- 1. CHW PROGRAMME - AN OVERVIEW**
- 2. VACHAN - AN INTRODUCTION**







# 1 OVERVIEW OF CHW PROGRAMMES

## 1.1 COMMUNITY HEALTH WORKERS (CHWS)

What are community health workers (CHWs)? Lackeys or liberators; guides, employees or volunteers, quacks or poor peoples' doctors, drug dispensers or development activists; a stop gap arrangement or the only promise of health care for millions of villages across developing countries?

International experience from the early fifties (since the Chinese programme of barefoot doctors) to the nineties, is a mixed story of success and failure of CHW programmes. While the Chinese programme is largely a success story, the changed socio-political circumstances in China itself have now adversely affected the importance and role of CHWs in the overall health services scenario (Kan 1992). In most other countries, CHW programmes have been unable to make a significant impact on national health. Frankel (Frankel, 1992) gives an excellent account of the strengths, weaknesses, possibilities of, and threats to CHW programmes in several countries. In short, international experience suggests that CHW programmes do have the potential for providing essential health care to millions of people, but general failure dogs their implementation, due to poor political and socio-managerial handling. India, unfortunately, is a case in point.

## 1.2 PRIMARY HEALTH CARE AND FIRST CONTACT CARE IN THE CONTEXT OF CHWS

Various terms are used to describe the arena of CHWs' activities. Basic health care, essential health care and now primary health care have somewhat overlapping definitions. Most workers today prefer "primary health care." We however felt that the term Primary Health Care (PHC) is too comprehensive since it is defined as "essential health care made universally accessible to individuals and acceptable to them, through their full participation and at a cost

community can afford" (Park 1991). Further it includes elements like education (for health), food / nutrition, water supply, basic sanitation, MCH, family planning, immunization, preventing endemic diseases, treatment of common ailments and provision of essential drugs (WHO 1978). We believe that this term is therefore too wide for the CHW role model and should be reserved to connote a perspective for a 'national' health care system. It touches health related services to be provided at the village level as well as at the state and central levels. We were therefore in search of a more specific term for encapsulating the **functional** role for CHWs. In our search, we found the term First Contact Care (FCC) to be the closest, though it has a connotation of the curative and emergency care.

The phrase "First Contact Care" is conventionally used for care given to victims of any emergency like road accidents, drowning, natural disasters etc. It was also used in the context of village health workers since they offered the first contact point for health care of the community (Park 1977). In the context of CHWs, the scope of the phrase has been expanded to include medical care made available at the village level, to a person or to the community suffering from any illness or injury or any distressing symptom, or any health related problem. It can include any preventive and promotive measures which can feasibly be applied in the actual conditions obtaining in the community.

## 1.3 THE INDIAN CHW PROGRAMME

In India, the CHW programme was launched, initially with great hope, in 1977. This was during the period when the Janata Party was in power at the Center. An important report compiled in 1981 by ICSSR and ICMR (ICSSR & ICMR 1981) expected that the CHW programme would play a very important role and the authors rightly assumed that "CHWs will provide the large base of the health care services". The same report went to the extent of envisaging that "the future female



multipurpose health worker will be selected from the CHWs of that area", thus implying an upward mobility for the CHWs. And Meera Chatterji characterizes the CHW scheme as "India's first significant attempt to devolve responsibility for health care to the village level". (Chatterji, 1993)

These hopes, not undue in any way, however, now stand belied. The failure of the programme at the national level in India is so dismal that many thinkers consider the CHW programme to be a spent force. The national CHW scheme launched in 1977 was almost defunct by middle of eighties.

There is not much literature available on the analysis of this colossal failure of so vital a programme. An observation in this connection reads:

"one of the main issues enveloping the CHWs was their medicalization" and also that there was "poor role definition" (Chatterji 1993).

Other reasons that are often blamed as causes of failure of the CHW programme(s) include bad selection (of CHWs), and the absence of effort to change the social matrix. An important turning point came when the programme was clubbed under the national family planning programme for the sake of finance, and then it took little time for plummeting. The failing FP programme was too insensitive, to say the least, to nurse a delicate baby like the CHW programme. The breakdown came before anybody expected it.

Finally the programme landed where it lies grounded today. The payment of paltry honoraria continues due to legal tangles and withdrawal of the drug kit has sealed the fate of one of the most important initiatives in decentralization of health care.

Are fresh efforts at all possible in the foreseeable future? Desai (5) admits that "no alternative strategy can afford to ignore the crucial role that such a community oriented worker must play in this adventure of attaining Health for All".

There is little by way of a Government statement on the current status of the CHW programme or a possible

variant of it, in India; and the future of the nationwide CHW programme is uncertain. What is certain is that extraordinary effort will be needed, focussing on both the technical and the managerial aspects of the CHW programme, if ever there is going to be anything like revamping the scheme. But there seems little political will in the air about a comeback.

## 1.4 CHWS IN NGO PROJECTS

In the NGO sector, where some social, political and managerial inputs are effected through the NGO, the CHW programme has survived and has achieved varied shades of success. Where adequate community mobilization and programme management is ensured, CHW programmes have made significant dents in morbidity and even mortality profiles, as was noted at Jamkhed (Chakrovarty 1983). In many other NGO run CHW programmes, achievements and failures have not been studied systematically and often these programmes have tended to degenerate to the level and status of the fading Government programme.

Some important issues concerning NGO run CHW programmes are worth raising here. One recurrent issue is exemplified by the statement that CHW programmes operated by NGOs are almost ineffective unless coupled with other developmental efforts. A statement on the Jamkhed study (Chakrovarty 1983) reads that "a new and simple approach to health care is less on drugs and doctors and more on integration of medical care into the socioeconomic development of the community.."

Must we then assume that, in order to be successful, CHW programmes have to be comprehensive developmental programmes? Such an assumption would pose serious questions concerning the significance and validity of a CHW programme that does not involve all other aspects of rural life. The proposal that it should is a very complex proposal indeed, and would make both the operation and analysis of CHW programmes difficult, especially on the macro scale.

On the other hand, the continuation of the programme in the NGO islands is also somewhat intriguing since



most of the projects give an impression that CHWs are there because of their being 'handy and dispensable' rather than their intrinsic worth. It is not surprising that most community health projects have none but the CHW to carry out what can be called as 'selective primary health care'. This trend is further separating the projects from the original aims of the CHW initiative.

There is yet another point. General experience has it that the rather incubatory milieu of NGO run programmes is almost completely missing when translating these programmes into national schemes, so that any analysis of an NGO run programme would be invalidated by real life forces that obtain in the uncontrolled conditions outside the NGO situation. However, this is more true of the socio-political dimensions of the programme rather than of the programme's technical components.

Also, a CHW programme failing because of the socio-political dimensions of the programme, cannot lead us to a complacent inference that the

average CHW programme is technically very sound. In this connection it should be noted that both Vachan's project Director (a co-author) and the Consultant to this study do not subscribe to the view that the Indian CHW programme failed because of "over-medicalization"

Finally, if the picture concerning the causes of failures of CHW programmes is unclear, confusion prevails concerning the 'role expectations' of a CHW. Any successful CHW programme entails a favorable change in the long-term morbidity and mortality profiles of the community. Health policy analysts are generally convinced that 'mere distribution of pills to the sick' is just not enough, even though these same analysts are aware that the communities being serviced by a CHW programme, perceive and articulate this to be the most important need. But we feel that yardsticks involving mortality measurements for assessing the success or otherwise of CHW programmes are quite formidable for the average CHW programmes to realize. The 'truth' must be somewhere in between then two extremes.



**TABLE NO. 2 : PROFILE OF COMMUNITY HEALTH WORKER IN VACHAN PROJECT**

NO.		CHW (MALE)	CHW (FEMALE)	AGGREGATE (MALE & FEMALE)
1	NO.	20 (64.5%)	11 (35.5%)	31 (100%)
2	POPULATION - (AVG.) (RANGE)	285.00 (103-720)	392.60 (184-774)	332.4
3	AGE (YRS.) - (AVG.) (RANGE)	25.8 YRS. (19-42)	22.8 YRS. (17-27)	24.70
4	EDUCATION - (STD. PASSED) (AVG.) (RANGE)	6.7 STD. (2-10TH)	6.00 STD. (3-10TH)	6.5
5	TENURE - (AVG.) (RANGE)	4.5 YRS. (3.5 YRS.)	3.5 YRS. (3-5 YRS.)	3.9

**TABLE NO. 3 : THE DRUG KITS FOR CHWS IN OF VACHAN PROGRAMME**

LIST OF MEDICINES SUPPLIED TO CHWS			
NO.	SENIOR CHWS (> = 2 YRS.) *	NO.	JUNIOR CHWS (< 2 YRS.) *
1	WHITFIELD OINTMENT	1	VITAMIN C
2	VITAMIN C	2	VITAMIN A
3	VITAMIN A	3	PARACETAMOL
4	TETRACYCLINE EYE OINTMENT	4	ORS
5	SALBUTAMOL	5	METRONIDAZOLE
6	PARACETAMOL	6	MEBENDAZOLE
7	ORS	7	FURAZOLIDINE
8	METRONIDAZOLE	8	CODEINE
9	MEBENDAZOLE	9	CHLOROQUINE
10	FURAZOLIDIN	10	CPM
11	FERROUS SULPHATE	11	B-COMPLEX
12	CODEINE	12	ATROPINE
13	CO-TRIMOXAZOLE	13	ANTACID
14	CHLOROQUINE	14	GENTION VIOLET
15	CALCIUM LACTATE	15	DETTOL & BANDAGE
16	CPM		
17	B-COMPLEX		
18	ATROPINE		
19	ANTACID		
20	AMPICILLIN		
21	GENTION VIOLET		
22	DETTOL & BANDAGE		



## 2 VACHAN - AN INTRODUCTION

### 2.1 WORK AREA AND PEOPLE

Vachan is working in 21 villages of the hilly Igatpuri block of Nasik district in the north-western part of Maharashtra. Igatpuri taluka is almost entirely tribal. Vachan's work villages are situated more or less along a semicircular road strip that stretches from Vaitarna dam in the south-west to Trimbak town in the north-east. The annual rainfall is about 80 to 100 inches but agriculture is confined mostly to a single crop of paddy. Villagers have to depend upon supplementary earnings from labor sites and from the forest department. Table No. 1M provides some demographic characteristics of the villages and their communities.

Village communities are fragmented into small hamlets (wadis/padas). The inhabitants are predominantly Mahadeo Koli and Thakur tribals (80%). An additional 8% are from the Scheduled Castes. The female literacy is only 7%. The government lists 43% of our area's population as being below the poverty line.

Public health services are poor with one primary health center (PHC) at Dhargoan near the Vaitarna dam. Two other PHCs are located outside the project area at Trimbak and Ghoti, about 20 kms from the nearest of Vachan's work villages. Both these PHCs also have 30 bedded rural hospitals but like many other government rural hospitals they function for the most part merely as dispensaries.

Private practitioners are clustered at Trimbak and Ghoti and there is one resident practitioner each in Dahalewadi and Vaitarna. A few doctors visit some villages once in the week. The frequency of these doctors' visits is now diminishing with the implementation of Vachan's CHW programme.

Table No. 2 & 2M (see footnote) provide data on CHW services in the Vachan's work villages. The villages and hamlets covered by one CHW are not very large. The maximum population under one CHW

is 774 and the minimum is 104. The education level of CHWs ranges between 3rd Std. and 10th Std.

### 2.2 HEALTH SITUATION IN THE PROJECT AREA

1. A survey done in 1990 of 538 children showed that more than two-fifths were malnourished, though only 4% are in III Grade.
2. A survey of all the drinking water facilities in the project area showed in 25 % of all the locations people had to walk more than 20 minutes to fetch drinking water. Only 33% out of these locations had deep wells protected from contamination.
3. There is a general dearth of facilities for health care. The health care available is often irrational, inappropriate, inadequate and expensive.
4. People continue to have faith in the local 'faith' healers.

---

#### VITAL STATISTICS FOR THE DISTRICT (1981)

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- CBR 29.28/1000 POP
- CDR 8.18/1000 POP
- IMR 50.20/1000 LIVE BIRTHS
- U5MR 208.00/1000 LIVE BIRTHS \*
- MMRatio 7.00/1000 LIVE BIRTHS

\* Based on a survey done by ACTION AID in 1991.

---

### 2.3 HEALTH STRATEGY ADOPTED BY VACHAN

The strategy in this programme is based upon the following three elements :

- a) Creating a cadre of trained health workers who would act as the first point of contact for any health problem that people face.

All Tables marked 'M' are included in the Section of Tables.
--



b) Complementing MCH Services offered by the government PHC particularly Immunization.

c) Creating health awareness through health education.

### **2.3.1 Vachan's Interventions**

a) Network of Wadi Level Health Workers.

b) Maternal Health Care including ante-natal care, immunization post natal care.

c) Child Health Care including weight monitoring of U5 children, immunization of infants.

d) Primary Curative Care through the CHWs.

e) Health Education.

f) Basic Needs Programme including safe drinking water and improved chullah programmes.

### **2.3.2. Evolution Of The Programme**

The health programme started in 1987 with the construction and deepening of wells used by the community for drinking water. Later, a campaign against scabies, which was quite rampant in the area was initiated. It also provided Vachan with the opportunity to demonstrate to the people the ease with which they themselves could treat and prevent simple ailments. In 1988, the MCH programme was introduced with Growth Monitoring of U5 children and later to ANC programme was added. Initially the MCH programmes covered only those locations served by a CHW. Later when Vachan began complementing the activities of the local PHC, these were extended to all the places where the government staff was unable to reach out to.

### **2.3.3 Programme Status**

The achievements under the Vachan health programme are presented in Annexure 8.

Besides the Health programme, Vachan also has following programmes :

**Education:** Child centers for pre primary children and Evening classes for school dropouts.

**Economic Programmes:** Providing Agricultural Inputs like seeds, pesticides and fertilizers on credit along with extension, Motivating the farmers to take up irrigation and providing inputs on credit, Motivating the farmers to grow fruit trees and giving extension and input support, Providing credit for local enterprises like poultry and goat rearing, small business and Providing credit for purchase of buffalo, veterinary care and extension, insurance, marketing support for milk.

### **2.3.4. Vachan's Community Health Worker Programme**

Vachan began its CHW programme in 1986. Besides shouldering the entire management of the social aspects of the scheme, special emphasis was laid right from the beginning on the technical component/ inputs of the programme. The realization that CHW programmes are generally weak in curative functions, prompted Vachan to emphasize an orientation that would satisfy the bulk of the curative needs of the village community. Diagnostics therefore, emerged as an obvious major focus in Vachan's programme. Efforts were made to systematically enhance the clinical skills of CHWs and though success has not been uniform, results have not been discouraging either.

It bears repeating that Vachan does not believe in the myth of 'medicalization' being a cause of the failure of the Indian CHW programme; on the contrary Vachan worked with a conviction that CHWs are made to function far below their clinical potential. It will be apt here to quote David Werner:

"- village workers were permitted to do discouragingly little..... instructors often taught health workers fewer medical skills than many villagers had already mastered for themselves (Werner 1981)".

Vachan's programme also shares Werner's observation that "...safeguarding the medical profession's monopoly of curative medicine by using the standard argument that prevention is more important than cure (which it may be to us but clearly



is not to a mother when her child is sick) ...sometimes so reduced a people's respect for their health workers that they became less effective, even in preventive measures".

Vachan's orientation also incorporates the conviction that though prevention of all ill health is important, many of the determinants/ preconditions of health need to be tackled at various other levels. The investing of such a formidable set of 'developmental' responsibilities (like improving nutrition levels, management of ecological determinants, safe drinking water, etc.) into the CHW programme is both unwise and unfair.

Vachan further believes that the role of a CHW in care of the sick overlaps in large measure the role of a general medical practitioner, and every effort therefore must be made to develop the CHW capabilities even in the curative aspect of their work. Hence there can be no 'health workers without healing abilities'. This perspective led us to study the technical (health-medical) aspects of the programme rather than the set of external factors that normally engage the attention of most studies on CHW programmes.

### 2.3.5 The CHWs Of Vachan

In Vachan, CHWs are called "Wadi level health workers" (WLHWs). The CHW programme began in 1989 with 11 CHWs. In 1991 another 21 CHWs were inducted. The number of CHWs in Vachan's programme exceed the number of villages Vachan is working in. This is because CHWs are appointed to work at the level of wadis (hamlets) too. Out of a total of 33 CHWs, two have left the programme. One left

because he got a job outside Vachan's work area. He continues, however, to keep in touch with the subject. The second resigned as he could not devote the time required to carry out his functions as CHW.

The locations, populations served and other features of the CHWs are presented in **Table No. 2 & 2M**. **Table No. 3** shows the drug kits provided to 'beginner' and 'senior' CHWs. As a general rule, CHWs trained in 1989-90 have been given more medicines to 'handle' than those who are their juniors.

It must be noted here that Vachan has not roped in the 'government CHWs' in their programme for various reasons. First of all, CHWs existed only at big village places and not wadis (hamlets). Secondly the government CHW programme is in complete jeopardy since there is no activity but payments are made occasionally and therefore, of no use to the Vachan's programme.

### 2.3.6 Training Of CHWs

The initial training of CHWs was conducted at Vaitarana, a convenient field location. A subsequent training session was held at a training center (Bharatvaidyaka Sanstha) in neighboring Dindori taluka. Apart from these initiating weeklong training programmes, monthly meeting days are also utilized for training inputs. The syllabus used in the training sessions is included herein as **Annexure 1**. Both Senior and Junior CHWs have been trained using the same syllabus; except that for the seniors, their training schedule was compressed to 15 days, while later batches now have it spread over 28 days.







# **SECTION II**

## **THE STUDY**

**PART I - DIRECT TESTING OF CHWS - KNOWLEDGE, SKILLS,  
ATTITUDES**

**PART II - CHWS THROUGH THE EYES OF THE COMMUNITY**

**PART III - STUDY OF CHWS' CLINICAL RECORDS**

**PART IV - SUMMING UP**





## PART I

# DIRECT TESTING OF CHWS - KNOWLEDGE, SKILLS AND ATTITUDES

## 1 ORIENTATION

### 1.1 WHY THIS STUDY

Given its approaches to health intervention listed above, (Section I, 2.2) Vachan thus wanted to make a special effort to assess the substance of its CHW programme. In structuring its health programme, Vachan has, with the use of manuals, diagnostic aids and continuous training at monthly meetings, made a consistent and conscious effort to upgrade the knowledge, attitudes and skills of its CHWs. This study conducted in 1994 is a systematic enquiry into how much has been achieved and how much has not been achieved in this context. In other words this study explores the technical content and scope of 'first contact care through CHWs'.

A broader significance of such a study emerges when one considers the fact that in the circumstances prevalent in most developing countries, CHWs are/ can be to health care what the general practitioners (GPs) are to the British health system. (King, 1984)

Exploring the range of FCC in the context of the average village situation is therefore the leitmotif of this study.

The words of Frankel from his excellent overview of CHW experience across countries, constitute the best summary of the reasons why this study was undertaken :

"It is striking how little is known about what CHWs actually do in relation to the tasks assigned to them... Much of the literature concerning CHWs is exhortative only. There have been few detailed evaluations of their performance and impact. This gap in the literature

is another manifestation of the tendency to talk about, rather than to, CHWs, and to idealize them rather than acknowledge the problems inherent in their mobilization... The achievement of wider benefits such as self-reliance in health care cannot be captured by measuring mortality patterns or immunization rates". (Frankel 1992).

### 1.2 OBJECTIVES

1.2.1 To evaluate Vachan's CHWs, in terms of knowledge, attitudes and skills required for first contact care.

1.2.2 To identify the strengths and weaknesses of Vachan's CHWs, and the factors contributing to these.

1.2.3 To record the village community's :

- a. Utilization of the CHW services as first contact health care.
- b. Perceptions about their CHWs.
- c. Preferences with respect to health care.

1.2.4 To work out a methodological framework for outlining the scope and content of first contact care through CHWs.

1.2.5 To develop a suitable test kit for evaluating CHWs, which could be used in other CHW programmes.

It is worth mentioning here that the initial terms of reference focused on items one to three. In working out a methodology to adequately study these items, the study found itself addressing issues that are of substantial interest to NGO health effort in general. Items four and five were therefore added on later as integral elements.



## 2 METHODS

### 2.1 FORMULATING CRITERIA AND EVOLVING A FRAMEWORK FOR FIRST CONTACT CARE

This study focuses on the assessment of CHWs in the light of FCC needs. The first major exercise was therefore to outline FCC for the situation in which Vachan launched its CHW programme.

Deciding what the health workers should know and should be able to do as a part of FCC is a difficult task since there are no accepted norms on this. In Maharashtra alone, various health projects have extremely varying expectations of the knowledge levels required of their health workers. These are decided by each project based on the goals and methods adopted for the programme.

In Vachan, CHWs use the Marathi manual "Bharatvaidyaka", whose author is consultant to this study. The study team decided that a framework of essential knowledge, skills etc., should be formulated, after which, the next task would be to prepare instruments for testing the CHWs on the basis of this framework.

What follows is a brief description how these tasks were accomplished.

#### 2.1.1 Estimating Prevalence And Severity Of Illnesses

In the first stage a list of illnesses using lay terminology was prepared using the WHO lay reporting guidelines (WHO 1978). This list was shared with the health workers in a common session. They were asked to 'rate' the illnesses in terms of (a) frequency of occurrence in the community and (b) severity of the illness.

Table No. 4M shows a fair degree of agreement between the rating of the two medical doctors in the Study team and that of the CHWs with respect to both the prevalence and severity patterns of the illnesses listed.

An advantage of this exercise was that these illness profiles could be used for fine tuning when structuring KAS details, so that illnesses rated as having 'low' prevalence could be eliminated from the scope of the study. However some illnesses like cancers as well as accidents like snakebites were retained in the final KAS test sheet, due to their overall medical importance in the context of village health care needs. (See Annexure 2).

Using the same Tables again, illnesses with 'simple' severity status were considered for comprehensive management by the CHWs. Illnesses rated as 'grave' by the standard opinion were considered for early detection and relevant action as detailed in the KAS sheet. For instance cancer of mouth is a condition that requires the CHWs to have a high suspicion index for early detection. The 'bad' conditions (intermediate gravity) were considered individually, for management or referral depending upon feasibility and risks involved.

While using ratings on prevalence and severity, both the standard opinion and the CHW opinion were considered; with standard opinion being given more weightage on the issue of severity and the CHWs' opinion given more weightage on prevalence estimation.

#### 2.1.2 Shortlisting Illnesses

Another exercise was conducted to assess the priority of illnesses, in the CHWs' perception. They were each asked to write down 25 illnesses. These lists were then pooled together for frequency of mention. Table No. 5M portrays this frequency. We are assuming that the CHWs have considered both prevalence and consequence of the illness while opining on its 'importance'. This list was utilized to make the KAS sheet more pertinent to CHW felt needs.

Pneumonia is seen topping this 'pertinent illness list'



Explanation is needed on this. A video film on acute respiratory infections was shown in the group the previous evening. This could have biased the CHWs' perceptions. We also notice that mental illnesses and illnesses relating to male genitals were not mentioned by any CHW. Otherwise the listed sequence closely resembles the morbidity records for the first 10 conditions. (See Table No. 6).

### 2.1.3 Framework for F.C.C.

A detailed sheet of knowledge, skills and required attitudes was prepared on the basis of the above mentioned illness and non-illness areas. This sheet has been used as a detailed chart for profiling individual health workers in terms of knowledge and skills required (Annexure 2). The KAS sheet (Annexure 2) has guided the entire test programme in this study.

This framework for FCC is obviously an open ended one and should evolve with usage and time. With appropriate changes, the KAS sheet can possibly be used as the basis on which to detail the contents of any CHW training programme.

The next stage, after evolving this framework on FCC, was to develop test instruments and programmes to assess the knowledge, skills and attitudes of the CHWs.

The estimation of the prevalence and severity of illnesses using the indirect method, of ratings by CHWs with two to five years experience, has provided us with a fairly good picture of the Project community's illness profile. We can accept that it broadly represents the community illness profile because :

(i) This estimate fairly matches the morbidity pattern reported in the CHWs' records studied (See Part 3 ), as Table No. 6 shows;

(ii) This estimation matches to a high degree the opinion of the evaluators; especially as regard both prevalence and perceived gravity of each illness.

In order to accurately assess the illness profile of a community, there is no better instrument than a comprehensive morbidity - both cross-sectional

and prospective - study of the local community. However, such a study was beyond the scope of this enquiry. Morbidity surveys by actual verification are noted for their theoretical and practical complexities. An alternative source of morbidity data would be the PHC outpatient records. Even, this has its own limitations. These records tend to reflect only the illness profile of those who have sought treatment from the PHC.

The qualitative method described above offers a time saving and low cost way of preparing morbidity profiles of village communities, and gives a fair idea in the absence of systematic morbidity records. A caution is however to be observed while using an indirect method such as the one used here. CHWs with limited morbidity experiences are apt to distort the picture to varying degrees. Also, biases regarding the perception of illnesses could vitiate the picture. Such distortions however, reduce as the number of experienced CHWs increases. Hidden illnesses (like malnutrition) and illnesses that are too common yet relatively innocuous (like louse infestations) may not figure in such estimates. This needs to be corrected.

## 2.2 ASSESSING KNOWLEDGE, SKILLS AND ATTITUDES

### 2.2.1 Formulating Tests For CHW Knowledge Levels

For knowledge testing, a comprehensive set of MCQs was developed. 646 MCQs were administered in 4 different sessions on two suitable days. Out of the 646 MCQs, 300 (Test I) related directly to the 'pertinent illness list'. The other 346 (Test II) dealt Human Biology, nutrition, pathology, medicines, community health etc. Each Test session was three hours. However CHWs were encouraged to attempt all the questions even if they had to exceed the time limit. The two tests were administered with a separating gap of three months.

The formulation and use of MCQs proved to be methodologically a sound decision. We found that in the actual answer sheets of individual CHWs there was no case of 'repetitive choice' of a certain option. Further, the high scores of some CHWs



coincided with our expectations. The results of the two tests administered with a gap of 3 months were analyzed for correlation. We noticed a high degree of correlation ( $r=0.85$ ) between the two sets of scores of CHWs despite the fact that two candidates who had scored badly in the first test (because of poor reading abilities) scored good in the second tests after providing them with 'reading help'. But for these two CHW's scores in the two tests, the correlation would have been even higher.

We feel that MCQs therefore are a good and reliable method of testing the information / knowledge levels of CHWs, provided care is taken to avoid a candidate coming up with an arbitrary 'repetitive' response pattern (say ticking a or b throughout the test). As an intended by-product of this study an extensive body of MCQs is now available for use by NGOs who might wish to assess their CHWs' level of medical knowledge.

The authors are aware of the criticism such tests are likely to attract, that they are a bit 'too formal' for as informal and friendly a programme as a CHW programme ought to be. Perhaps it is admittedly harsh for some who can not read and decide as fast as others. But then there is no other objective way of assessing the information level of a good range of subjects. We also found that soon the CHWs begin to enjoy the test programme, especially when the various choices are discussed later. There is a certain incisiveness in MCQs since one has to choose between 'closely resembling answers'. The discussion of the misses and hits are both education and involving.

### **2.2.2 Formulating A Test Instrument For CHW Skills**

Skills can be broadly defined as 'knowledge based techniques' that each one of us is called upon to perform in various situations. We decided to study the various skills that the CHWs will need to put into effect at some time or the other. The KAS sheet lists a number of skills required for healing and other related functions. We decided to classify the required skills into two broad groups : 'elementary' and 'advanced'.

Elementary skills were further subdivided into

'testable skills' (e.g. counting breath rate) and 'other skills' that could be assessed only in real life situations (e.g., wound care). This study focuses only on the testable skills and leaves other skills for more training and other testing opportunities. A statement delineating all the steps (standard instructions) of all the 50 testable skills was prepared and used in the examination.

The skills to be tested were examined by three independent examiners, each one testing only a certain group of skills throughout the entire test. The CHWs underwent the skills tests in three groups on three different days. Three grades - A, B, C, - were used in assessment. Before the tests, the examiners discussed assessment criteria for each test item. Grade A was accorded after completion of all necessary steps in the test concerned. Grade C was accorded to non-performers or for poor technique. All other intermediate performance was awarded grade B. The principal examiner observed the other two examiners while they examined one or two candidates. This procedure was followed on all the three days of examination. This was useful in standardizing the assessment in some measure.

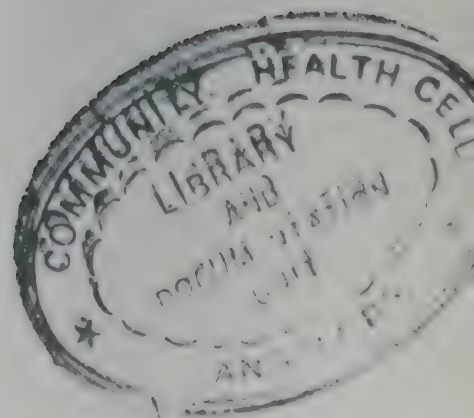
### **2.2.3 Formulating An Instrument To Learn About Attitudes Of CHWs**

Attitudes are 'positive or negative affects regarding certain situations and issues; influencing the way in which the individual thinks and reacts in each case' (Henerson 1987). While we are all aware of the importance of attitudes in every walk of life, we are also aware that it is quite difficult to 'test' for attitudes in an objective manner. It is common knowledge that individuals tend to 'project' attitudes to gain social acceptance, thereby hiding their real attitudes quite successfully. Also, attitudes are known to change during the very exercise of testing. Then again, an attitude scale, unless finely tuned, may elicit contrived answers. Further, we guess that, despite some degree of objectivity of the instrument, attitude testing will be more meaningful and free when administered by a respecting friend than an unfriendly person or a stranger. However, despite these limitations that attach themselves to the two best attitude testing methods, viz., statement ranking and

the agreement scale, we thought it necessary to document the attitudes of the CHWs with a view to outlining a possible attitude training programme.

Between the above mentioned two methods of attitude testing we chose the Agreement Scale for ease of administration and analysis. While preparing statements for the Agreement Scale, the KAS sheet served as a broad guideline. About 100 statements were generated on different health related issues. Each issue, was previously discussed with a separate small group of CHWs in an informal manner during after-dinner sessions. This helped to generate appropriate and

more meaningful statements on various issues. The attitude Agreement Scale was administered to a separate but comparable group of health workers in a different project. This pretesting exercise gave us a feel of the relevance of the scale and helped to further refine the statements. A difficulty arose in the form of some statements that refused to attract any 'standard' position even with the evaluators. Therefore all statements have been analyzed individually without pooling the scores. Even without any statistical analysis, the exercise has provided us with valuable information on how CHWs think and are likely to behave with reference to specific issues.





**TABLE NO. 5 : 25 ILLNESSES CONSIDERED IMPORTATN BY CHWS**

NO.	ILLNESS	FREQUENCY OF MENTION
1	PNEUMONIA	20
2	MALARIA	20
3	DIARRHOEA/VOMITING/DEHYDRATION	19
4	COLD	19
5	COUGH	18
6	PUO	17
7	SCABIES	16
8	PAIN IN ABDOMEN	15
9	INJURIES	14
10	DYSENTERY	13
11	HEADACHE	13
12	CONJUNCTIVITIS	13
13	JAUNDICE	13
14	GASTRITIS/PEPTIC/DUODENAL ULCER	12
15	LEUCORRHOEA	11
16	LEPROSY	9
17	WORMS INFESTATION	9
18	LUNG TB	9
19	HIGHBLINDNESS	9
20	MENSTRUAL DISORDERS	8
21	NAUSEA/VOMITING	8
22	ASCOM - PUS IN EAR	7
23	TOOTHACHE	7
24	GINIGVITIS	7
25	GLOSSITIS/STOMATITIS	7

**TABLE NO. 6 : COMPARISION OF COMMUNITY MORBIDITY PROFILE BY QUALITATIVE METHODS AND ACTUAL RECORDS**

QUALITATIVE METHOD POOLED CHW OPINION)	NO.	RECORD STUDY
PNEUMONIA	1	PUO (OTHER FEVERS)
MALARIA	2	MALARIA
COLD	3	COLD
LOOSE MOTIONS	4	HEADACHE
COUGH	5	ABDOMINAL PAIN
PUO (OTHER FEVERS)	6	LOOSE MOTIONS
SCABIES	7	WORMS
ABDOMINAL PAIN	8	COUGH
WOUNDS	9	WOUNDS
DYSENTERY	10	DYSENTERY
HEADACHE	11	SCABIES

**TABLE NO. 8 : SCORES (PERCENTAGE) OBTAINED BY CHWS - IN KNOWLDGE TESTS**

NO.	CATEGORY		MEDICINE EXAM I (%)	OTHER SUBJECTS * EXAM II (%)
1	SENIOR MALE CHWS -	AVG.	42.44	46.24
		RANGE	22 - 61	36 - 59
2	SENIOR FEMALE CHWS -	AVG.	22.00	28.32
		RANGE	17 - 26	27 - 29
3	JUNIOR MALE CHWS -	AVG.	37.88	40.86
		RANGE	18 - 53	31 - 51.16
4	JUNIOR FEMALE CHWS -	AVG.	30.92	37.38
		RANGE	18 - 41	23 - 54
*OTHER SUBJECTS INCLUDE HUMAN BIOLOGY,COMMUNITY MEDICINE,STUDY OF DRUGS ETC.. (SEE TEXT)				

### 3 OBSERVATIONS AND DISCUSSION

#### 3.1 ON THE KNOWLEDGE OF CHWS

##### 3.1.1 General Observations

Of the 31 CHWs, 30 were available for the first test, while 28 participated in the second test. **Table No. 7M** gives a summary of the performance of CHWs in the two tests, showing actual scores. **Table No. 8 & 8M** show percentage scores of all CHWs in the various areas of knowledge listed in the Table. Subjects like pathology, human biology, study of drugs, child health were areas where mean scores were above 40 percent. Medicine, nutrition, social medicine, pregnancy and child birth and also diagnostics posted scores between 30-40 percent. Mental health, forensic medicine and cancer etc., were covered by very few (less than 10) MCQs, while medicine and human biology had the two largest shares.

The CHWs have been categorized as 'senior' and 'junior' depending upon whether they have worked for more than 3 years or less. **Table No. 9M** shows Wilcoxon's rank sum test applied across various categories of CHWs, by categories of seniority and gender.

Though the scores of senior men CHWs were slightly higher than the junior men CHWs; the observed differences were not significant in any of the subjects listed in **Table No. 9M**. However there are significant differences between scores of junior men and junior women CHWs in the subjects of Human biology, pathology, community health, study of drugs, pregnancy, child health and medicine; with men CHWs having higher scores. But there was no difference among them in nutrition and diagnostics.

**Table No. 9M** also shows that senior men CHWs have significantly higher scores than junior women health workers in all the subjects.

The difference between senior women CHWs and all other categories was not tested since there were only two women in this category. **Table No. 10M** shows differences between the scores of CHWs with

education above and below 6th standard (passing). Wilcoxon's rank sum test underlines the difference between the two categories, with the more educated CHWs obtaining distinctly higher scores than the other category ( $p < 0.01$ ).

##### 3.1.2 The Difference Between Scores Of Male And Female CHWs

A very poor average score (22) in the 'senior women' category is probably because of their lower formal education and reading abilities (**Table No 9M**). But there seems to be a general difference between the scores of men and women CHWs.

First, there are significant differences between men and women CHW scores in the junior category (in all except in nutrition and diagnostics). A similar difference is discernible between senior men and junior women CHWs. On the contrary there is no significant difference between the knowledge scores of junior and senior men CHWs.

Undocumented experience of various NGOs about successes of men and women CHWs is contrary to these observations. However, there is no literature available on systematic comparison of knowledge levels of male and female CHWs.

Why should women be scoring less than men?

With Vachan's experience the possibilities are :

a) Women CHWs in the project probably read less than men CHWs due to having more domestic and farm work to do.

b) It could be that the overall work experience of women CHWs is less rich especially in those areas of knowledge that were tested. Actual patient records show that men CHWs had slightly higher daily attendance rates than women CHWs.

c) The difference cannot also be attributed to formal



education since there are proportionately more women than men in the higher education category (see Table 10M).

This leaves only the first possibility - that of having less study-time due to domestic pressures. This is probably where Vachan may need to intervene if the difference is to be resolved.

### 3.1.3 Formal Education Of CHWs And The Test Scores

The difference between (Table No. 10M) the scores of CHWs with education below and above 6th standard is significant. It is often argued, (probably because many earlier CHW programmes had to make do with candidates with lower formal schooling levels), that formal schooling level plays a negligible role in the effective functioning of CHWs though it does make a difference to the learning process. Some training programmes (like the one for Vachan's CHWs) also drawn upon reading and writing skills and this could have been the factor behind the observed differences between the scores.

In general it can be said that with lower schooling levels, the capacity for abstraction is likely to suffer and this matters in the process of understanding health science, at least beyond a point.

In this study, CHWs with less formal education have performed poorly in both the tests as compared to others. Two CHWs are however noteworthy exceptions to this statement. Though they belong to the below-6th-Std-passed level, they are known to be good 'learners' in the programme. Of course, all other conditions being equal, CHWs with higher education levels are obviously bound to be better placed as far learning is required.

But the higher schooling group is also likely to have higher attrition rates and this could be one reason why CHW projects seem to settle for low schooling level candidates. However, the choice of CHWs will also depend largely upon availability of suitable candidates; and there is a dearth of these in the village due to migration for employment opportunities.

Vachan also emphasizes learning from books, unlike many projects that rely upon oral communication and work experience as the main tools of training. Surely a lot depends upon the role and technical scope of CHWs as envisaged by the programme, and while there can be programmes that do not suffer due to the lower schooling / literacy levels of CHWs, in other programmes this may be a crucial factor for success.

### 3.1.4 Training Factors

It is to be noted that all Vachan's CHWs were not trained at the same time. Junior CHWs were trained during the current year (Jan 94) and the senior ones had undergone their training three years earlier. The syllabi, content-wise, were almost the same, but the duration differed. The juniors underwent a longer training course (one month) while the seniors' course was for only about a fortnight. The Trainers were same for both the courses but their training experience was obviously better at the time of the subsequent training programme. The fact that there is no difference between senior and junior men CHWs in medicine and most other areas suggest that the advantage of longer work experience and reading of the seniors has been matched by the efforts of the juniors. Perhaps the difference could have been obviated by the recall factor, since juniors were trained recently as compared to the seniors.

### 3.1.5 Other Issues

Test scores obviously depend heavily on the test instrument - simple or difficult questionnaire - and all the scores therefore must be seen in the light of the MCQs administered. When the questionnaire was shown to some community health experts, it was generally opined that the MCQs were slightly on the 'tougher side'. The scoring must be seen in this light. The set of MCQs used here constitute the long term perspective of the coauthors about how well the CHWs should be equipped.

As there were very few questions on subjects of mental health, forensic medicine, and cancer, no emphasis can be laid on the scores of these subjects. Ignoring categories of CHWs, the overall average



scores for subjects ranged from 28-48%. The mean average scores (overall) for exam I and exam II are 36% and 41% respectively. This leaves a lot of scope for further training. However the peculiar circumstances of CHWs should be taken into consideration at this point.

Factors influencing the learning and knowledge base of CHWs are summarized below :

- a) Personal factors like level of schooling, reading skills, intelligence, analytical skills etc.
- b) External factors like rewards and recognition quantum of clinical and other health work available in the village, access of villagers to alternative health services (affecting CHW involvement in the job), training programmes and continuous training etc..

What must be said here is that learning and information gathering is a dynamic process and efforts should continue to upgrade the fibre of CHWs. Some factors that shape learning can not be altered. The basic individual intelligence could be one such thing. The village size is another constant that will in turn decide the quantum of clinical experience. But conscious efforts should be made to increase the depth and reach of working CHWs on the existing epidemiological profile.

## 3.2 ON SKILLS

### 3.2.1 General Observations

Among grade I (basic) skills, 50 skills were listed as 'testable' in non-clinic situations. These were further subdivided into three groups - Diagnostic (26), Therapeutic (10) and Miscellaneous (14).

**Table No.s 11, 12, 13 & 14M** detail the grades obtained by 22 CHWs in skills' tests.

### 3.2.2 Diagnostic Skills

In 10 of the 26 diagnostic skills more than half the CHWs scored well (Grade A). These were: detection of cataract, identifying snake type, mapping chest, neck rigidity test, detecting jaundice, counting pulse,

checking pallor, measuring temperature, breath counting and detecting turbidity in urine.

The following five skills registered moderate performance : Mapping abdomen, lung percussion technique, liver palpation, checking neck glands, detecting pulse at 6 sites, checking 6 sites for lymph node enlargement.

Five skills registered poor performance. These were : Examining cornea, checking nerves for swelling in suspect leprosy, checking sinus sites, percussing bladder site, checking light reflex. Six other skills recorded a mixed picture of varying performance grades.

### 3.2.3 Therapeutic Skills

Among the 10 therapeutic skills; identifying drug form (Tablets, capsule, ointments, injections etc.) and some herbs were the only two elementary skills performed well by most CHWs. Application of a tourniquet for snake bite, bleeding a snake bite site, stopping bleeding with pressure or forceps. Wound, dressing were 4 tests with moderate performance. Decongesting nose with salt water drops, artificial respiration and heart massage were poorly performed by most. Preparing ORS, steam inhalation, had a mixed performance of good, moderate and poor grades.

### 3.2.4 Other Skills

Among the 14 miscellaneous skills, 'reading skill' was the only one performed well by about half the number of CHWs. Placing copper - T on uterus model and 'cleaning hands' were skills that came next in grade A performance. Describing the eye structure from a model, explaining the technique of disinfecting a well, preparing a referral note for patients and keeping morbidity records, registered a moderate grade performance by more than half the health workers. Use of Disease Placement Table (Annexure 8) correct brushing of teeth, fixing the expected due date of delivery from the obstetric Table, and preparing sanitary pads were poorly performed by more than half the CHWs.



**TABLE NO. 11 : DIAGNOSTIC SKILLS SCORES OBTAINED BY CHWS (22\*) IN SKILLS TEST**

NO.	SKILLS	A	A%	B	B%	C	C%	TOTAL %
1	MAPPING ABDOMEN	1	4.55	16	72.73	5	22.73	22(100%)
2	EXAMINING CORNEA	2	9.09	7	31.82	13	59.09	22(100%)
3	DETECTING CATARACT	11	50.00	2	9.09	9	40.91	22(100%)
4	DETECTING MALNUTRITION WITH ARMBAND	10	45.45	2	9.09	10	45.45	22(100%)
5	IDENTIFYING SNAKES	12	54.55	9	40.91	1	4.55	22(100%)
6	MAPPING CHEST	11	50.00	10	45.45	1	4.55	22(100%)
7	CHECKING NECK RIGIDITY	17	77.27	4	18.18	1	4.55	22(100%)
8	LUNG PERCUSSION	8	36.36	11	50.00	3	13.64	22(100%)
9	EXAMINING THROAT / TONSILS	8	36.36	14	63.64	0	0.00	22(100%)
10	DETECTING JAUNDICE	13	59.09	7	31.82	2	9.09	22(100%)
11	PALPATING LIVER	1	4.55	14	63.64	7	31.82	22(100%)
12	CHECKING SENSATION ON SKINPATCH	9	40.91	9	40.91	4	18.18	22(100%)
13	CHECKING NERVES FOR SWELLING	1	4.55	4	18.18	17	77.27	22(100%)
14	IDENTIFYING TYPES OF LEPROSY PATCHES	5	22.73	7	31.82	10	45.45	22(100%)
15	CHECKING SINUS SITES	2	9.09	9	40.91	11	50.00	22(100%)
16	CHECKING LYMPH NODES IN NECK	1	4.55	13	59.09	8	36.36	22(100%)
17	CHECKING 6 PULSE SITES	5	22.73	13	59.09	4	18.18	22(100%)
18	COUNTING PULSE	14	63.64	7	31.82	1	4.55	22(100%)
19	CHECKING 6 LYMPH NODE SITES	2	9.09	16	72.73	4	18.18	22(100%)
20	CHECKING PALLOR	15	68.18	7	31.82	0	0.00	22(100%)
21	PERCUSSING BLADDER SITE	1	4.55	7	31.82	14	63.64	22(100%)
22	CHECKING LIGHT REFLEX	1	4.55	3	13.64	18	81.82	22(100%)
23	MEASURING TEMPERATURE	11	50.00	8	36.36	3	13.64	22(100%)
24	COUNTING BREATHS	13	59.09	6	27.27	3	13.64	22(100%)
25	CHECKING URINE FOR TURBIDITY	22	100.00	0	0.00	0	0.00	22(100%)
26	MEASURING BP	4	18.18	9	40.91	9	40.91	22(100%)

\* ONLY 22 CHWS APPEARED FOR THE SKILLS' TEST

**TABLE NO. 12 : THERAPEUTIC SKILLS SCORES OBTAINED BY CHWS (22) IN SKILLS' TEST**

NO.	SKILLS	A	A %	B	B %	C	C %	TOTAL
1	DECONGESTING NOSE WITH SALT WATER	8	36.36	3	13.64	11	50.00	22(100%)
2	TOURNIQUET FOR SNAKEBITE	4	18.18	18	81.82	0	0.00	22(100%)
3	BLEEDING SNAKEBITE SITE	6	27.27	15	68.18	1	4.55	22(100%)
4	IDENTIFYING DRUG FORMS	22	100.00	0	0.00	0	0.00	22(100%)
5	IDENTIFYING HERBS	17	77.27	5	22.73	0	0.00	22(100%)
6	PREPARING SSS-ORS	7	31.82	9	40.91	6	27.27	22(100%)
7	STEAM INHALATION	8	36.36	5	22.73	9	40.91	22(100%)
8	ARTIFICIAL RESP AND HEART MASSAGE	1	4.55	5	22.73	16	72.73	22(100%)
9	STOPPING BLEEDING-PRESSING/FORCEPS	5	22.73	17	77.27	0	0.00	22(100%)
10	WOUND DRESSING	8	36.36	14	63.64	0	0.00	22(100%)

**TABLE NO. 13 : OTHER SKILLS GRADES OBTAINED BY CHWS (22) IN SKILLS TEST**

NO.	SKILLS	A	A %	B	B %	C	C %	TOTAL %
1	IDENTIFYING EYE STRUCTURE	0	0.00	14	63.64	8	36.36	22(100%)
2	USING DISEASE TABLE IN MANUAL	7	31.82	3	13.64	12	54.55	22(100%)
3	PLACING COPPER T ON MODEL	10	45.45	3	13.64	9	40.91	22(100%)
4	READING SKILLS	11	50.00	7	31.82	4	18.18	22(100%)
5	CORRECT BRUSHING OF TEETH	5	22.73	4	18.18	13	59.09	22(100%)
6	DISINFECTING WELL	2	9.09	14	63.64	6	27.27	22(100%)
7	TELLING EDD FROM LMP	9	40.91	2	9.09	11	50.00	22(100%)
8	PREPARING REF NOTE	5	22.73	11	50.00	6	27.27	22(100%)
9	PREPARING PADS FOR MENSES	6	27.27	5	22.73	11	50.00	22(100%)
10	PROJECTING SLIDES	9	40.91	3	13.64	10	45.45	22(100%)
11	STERILISING THREAD	7	31.82	9	40.91	6	27.27	22(100%)
12	PREPARING BLOOD SMEAR	9	40.91	10	45.45	3	13.64	22(100%)
13	KEEPING CASE RECORD	4	18.18	14	63.64	4	18.18	22(100%)
14	CLEANING HANDS	10	45.45	9	40.91	3	13.64	22(100%)



Table No. 14M summarizes the grades obtained by the CHWs in the their skills 'groups'.

### 3.2.5 Making Sense Of CHWs Skills Study

Developing health care skills is an important component of CHW programmes but unfortunately, as with attitudes, this is a neglected issue in many CHW programmes. The list of skills in the Govt. CHW programme is quite limited and the effective skills expected in field conditions include just wound dressing, taking blood films and preparing ORS. Individual NGO projects have their own set of priorities and the skills required in relation to them. But a comprehensive skills' list has not been found in most programmes this evaluator is acquainted with.

Since traditional healers are poorly represented in the selection of CHWs, traditional healing skills are often conspicuous by their absence in CHW programmes, a large chunk of skills is outside the purview of the average CHW programme. Most interventions include handing out medicines and/or messages. Further, surgical procedures are completely absent from CHW programmes. Childbirth is a special matter reserved for Dais, nurses, and doctors, in that order. In the light of the above discussion, the CHW is perceived as a mere 'talker' and not a 'doer'.

Conscious of this situation regarding skills, we decided to develop a fairly comprehensive, even if not complete, list of skills necessary for a CHW programme. Needless to say that this would be an open ended list. The KAS sheet should provide a broad map of areas for skills for the CHW programme. However, we decided to restrict ourselves at this stage only to 'basic skills' and leave the 'advanced skills' for a future course. Annexure 4 lists the basic skills that Vachan requires of its CHWs. Some of the skills tested in this programme were not a part of the routine work of CHWs (e.g., measuring blood pressure). Even so, we thought it useful to get a complete picture of the required skills profile. This exercise should help us plan skills training programmes for CHWs. Finally, it must be said here, that some 'skills' included in this test may not appear as anything worth calling as skills to most of us (like identify Tablet etc.) but for CHWs it is a step indeed.

## 3.3 ON ATTITUDES

While administering the Agreement Scale, care was taken to scramble the statements so that health workers would not have a repetitive approach to each group of statements. The study of attitudes has been highly informative. Many attitude-areas that otherwise would have been unnoticed have come to light because of the attitude scale exercise. (see Table No. 15).

### 3.3.1. Attitudes Regarding Health Services

CHWs prefer referring a patient to private doctors to government dispensaries. Studies (Duggal 1989) support the general impression, that the major chunk of sickness load goes to private clinics in rural areas, probably because government dispensaries have a very poor rapport with people. With the establishment of Vachan's referral center, it is hoped that many of these referrals will be directed to the center rather than to private clinics.

Notwithstanding the above, CHWs do not consider the private doctors that abound in rural areas (with dubious degrees) to be very respectable. "Exploiters" is the word chosen to describe them ! In fact CHWs generally feel that their own diagnostic knowledge is better than that of the private doctors' who function in rural areas and but for their (doctors') injections and infusions, the CHWs feel that they would have earned a higher regard/respect for themselves vis-a-vis private doctors, in the eyes of the community. This difficulty is real and CHW projects should workout some rational and effective ways to overcome this problem.

About government dispensaries, CHWs opine what most people feel or find out - that there is a general lack of care at Government dispensaries. But there is a silver lining to this, namely, that CHWs do not consider it 'socially inferior' to use the services of Government dispensaries. Government dispensaries in rural areas claim just about 12 % the sickness load (Duggal 1989) and it could be well worth researching into why equally bad (or worse) private clinics thrive despite the presence of Government dispensaries. Is it just material and equipment or attitudes of government health staff that make the difference ?

**TABLE NO. 15**  
**AGREEMENT PATTERN OF CHWS ON VARIOUS ISSUES.**

**A HEALTH SERVICES**

NO.	ACTUAL SEQ. IN TEST	QUESTION	DISAGREE	EQUIVOCAL	AGREE	TOTAL
1	(1)	All said and done, it is better to refer patients to private doctors (when the need arises).(U)	10	2	15	27
2	(19)	There is no respect for people in government dispensaries. (They don't care about people at government dispensaries).(U)	8	4	15	27
3	(26)	Even we (CHWs) consider it inferior to seek Medicare in government dispensaries.(U)	14	2	9	25
4	(28)	Among government health staff, nurses are the best workers.(P)	6	1	19	26
5	(30)	Bhagats (faith healers) are indispensable in certain illnesses.(U)	7	6	14	27
6	(36)	Dais are ignorant.(N)	9	2	12	23
7	(37)	Private doctors are only looters/exploiters.(U)	7	2	17	26
8	(87)	Free Medicare is the right of every one.(P)	7	3	16	26
9	(88)	There is no point in registering each and every pregnant woman.(P)	19	2	4	25

**B TREATMENT**

1	(2)	Every illness has to be treated with some medicine.(N)	13	3	11	27
2	(7)	The limit for CHWs' treatment is 2-3 days, not beyond !.(N)	8	2	17	27
3	(10)	For people, there can be no treatment without injection.(N)	5	1	21	27
4	(18)	CHWs should not treat anything beyond minor illnesses.(N)	11	1	12	24
5	(38)	Little differences in dosages make no difference.(N)	9	2	16	27

**Note :** The opinion of evaluator about the nature of statement is denoted by P (Positive), N (Negative) and U (Undecided).  
Agreement pattern is categorised as D (Disagree), E (Equivocal) & A (Agree).



NO.	ACTUAL SEQ. IN TEST	QUESTION	DISAGREE	EQUIVOCAL	AGREE	TOTAL
6	(64)	Nobody trusts the 'sugar salt water' therapy in diarrhoea.(N)	11	0	14	25
7	(67)	CHWs can not help many illnesses.(N)	5	2	20	27
8	(73)	All said and done, it is better to treat diarrhoea with pills rather than keep keep sugar salt solution.(N)	15	2	10	27
9	(77)	Scabies in the village is quite preventable if CHWs only exert themselves.(P)	2	1	24	27
10	(78)	Pneumonia is something CHWs can surely treat.(P)	6	0	21	27
11	(96)	It is not possible for CHWs to attend to every patient personally, exceptions are unavoidable.(N)	8	6	13	27

#### C ABOUT VILLAGE AND VILLAGE COMMUNITY

1	(3)	The task of improving the lot of village people is a really difficult one.(N)	10	6	11	27
2	(5)	Life / in villages is happier than life in the cities.(P)	10	4	12	26
3	(8)	People want everything easy and on a platter / without the necessary efforts.(N)	13	3	11	27
4	(11)	People's will is the ultimate in any work.(P)	2	6	19	27
5	(13)	Villagers rarely act with unity.(N)	5	2	20	27
6	(17)	People do change, though slowly.(P)	3	3	18	24
7	(32)	Ignorance is found in all walks of village life.(N)	10	4	13	27
8	(52)	Free medicines are worthless. (Nobody respects free medicines)(N)	7	0	22	29

#### D DIAGNOSIS

1	(4)	Diagnosis is necessary for a doctor; rather than for a CHW. (N)	14	1	12	27
2	(15)	Diagnosis is hardly ever needed in village health care.(N)	20	1	6	27

NO.	ACTUAL SEQ. IN TEST	QUESTION	DISAGREE	EQUIVOCAL	AGREE	TOTAL
3	(22)	It is dangerous to treat without diagnosing an illness.(P)	1	2	24	27
4	(24)	As CHWs , we cannot detect serious illnesses unless people themselves tell us about the illnesses.(N)	3	2	22	27
5	(66)	Detecting hidden illnesses is one of the major tasks of CHWs. (P)	4	2	21	27
6	(78)	TB patients rarely approach us even if there are one or two in the villages.(N)	6	2	19	27

#### E HYGIENE / NUTRITION

1	(34)	Water stored yesterday is stale today, and must be discarded.(N)	15	2	9	26
2	(46)	Meat eating is irreligious and - improper. (U)	19	4	4	27
3	(49)	Smokeless chulha is a very good device. (P)	1	0	26	27
4	(56)	Everyone must wash their hands with ash if not with soap, after defecation.(P)	0	0	26	26
5	(57)	Villagers will not take to latrines at that easily.(U)	3	3	20	26
6	(58)	Soak pits are not very relevant in village. (There is little use for soak-pits in villages).(N)	13	1	13	27
7	(59)	Drinking water can not be spoilt/contaminated by mere dipping of hands (N)	12	4	10	26
8	(60)	After defecation use of stones for anal cleaning is in many ways a better practice than cleaning with water. (U)	22	2	3	27
9	(61)	Personal cleanliness is easier said than done(U).	7	4	15	26
10	(63)	Large scale adoption of latrine construction program is impossible for this generation at least.(N)	7	0	18	25
11	(71)	Water from streams is always cleaner than non flowing water.(N)	9	6	11	26
12	(83)	A latrine next to one's house is esthetically unacceptable.(N)	14	2	10	26



NO.	ACTUAL SEQ. IN TEST	QUESTION	DISAGREE	EQUIVOCAL	AGREE	TOTAL
<b>F SELF IMAGE</b>						
1	(6)	CHWs surely have an edge over bazaar doctors as far as diagnostics is concerned.(P)	1	1	25	27
2	(12)	Injections/saline can ensure that CHWs enjoy the same respect as (private) doctors.(N)	4	2	20	26
3	(16)	People will surely have greater respect for a CHW if he has a stethoscope.	3	2	21	26
4	(21)	CHWs are not less knowledgeable than nurses(P)	5	4	15	24
5	(23)	People are yet to realize the worth of CHWs. (U)	8	2	17	27
6	(25)	A CHW in the village is more useful than a remotely placed doctor.(P)	1	0	26	27
7	(27)	A village-community will surely experience hardship without a CHW.(P)	2	2	23	27
8	(29)	People respect us CHWs more than they do government paramedicals.(P) (malaria - smallpox vaccinators).	7	5	14	26
9	(40)	Private doctors have a grudge against CHWs. (U)	5	7	15	27
10	(54)	One pays special attention to personal hygiene after becoming a CHW.(P)	1	0	24	25
11	(90)	There is a reduced commitment to farm work after becoming a CHW.(N)	15	1	11	27
12	(92)	People come to us only because we treat them free.(N)	11	1	15	27
13	(97)	Our health work will not stop even if Vachan stops drug supply(P)	10	5	12	27
14	(98)	Nobody will continue to be a health worker all his/her life.(N)	15	4	8	27
15	(99)	Village health work turns boring after the first 2-3 years.(N)	23	1	3	27
16	(100)	Real happiness is in healing people.(P)	0	0	27	27

NO.	ACTUAL SEQ. IN TEST	QUESTION	DISAGREE	EQUIVOCAL	AGREE	TOTAL
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#### G FAMILY PLANNING

1	(33)	Advice for sterilization before begetting 4-5 children will be treated as a joke by the villagers.(N)	7	2	18	27
2	(39)	People do not need F.P. advice howdays; they decide for themselves.(N)	10	0	17	27
3	(41)	The truth is that peasant families just cannot manage with only 2-3 children.(U)	8	3	13	24
4	(43)	Even we, as CHWs, will not advise permanent sterilization to families having only daughters.(N)	9	6	11	26
5	(44)	Population growth is the root cause of poverty.(U)	7	1	19	27
6	(45)	Discussing F.P. with villagers is a difficult task.(N)	10	2	15	27
7	(50)	Actually, male vasectomy is something that does not occur to us CHWs too.(N)	5	5	14	26
8	(82)	Village folk prefer permanent sterilization (after the desired number of children) to spacing methods.(N)	4	0	23	27
9	(89)	It is to better to have children soon after marriage, so that they can sooner be productive for the family.(U)	14	1	10	25

#### H HERBS TRADITIONS ETC.

1	(9)	Nowadays people do not trust herbal remedies.(N)	8	6	12	26
2	(14)	Herbal remedies are for poor people.(N)	11	2	14	27
3	(31)	Some herbal remedies are great cures.(P)	1	1	24	26
4	(48)	One must observe the do's and don't's in every illness.(P) (Pathya and Apathya)	7	2	16	25
5	(91)	Home remedies are of no use.(N)	20	0	7	27

#### I WOMEN

1	(35)	Women must observe isolation during menstruation.(N)	18	1	8	27
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NO.	ACTUAL SEQ. IN TEST	QUESTION	DISAGREE	EQUIVOCAL	AGREE	TOTAL
2	(47)	Women should eat only after the men have eaten. (N)	16	2	8	26
3	(55)	The touch of menstruating women is enough to destroy fruition in trees.(N)	14	6	7	27
4	(62)	Women are able to bear sickness better than men.(P)	6	2	19	27
5	(74)	Complaints like white discharge are very messy to treat.(N)	7	4	16	27
6	(80)	Whatever the reason, it is not good to delay a daughter's marriage beyond 18yrs of age(N).	20	2	5	27
7	(81)	Many women keep complaining about backaches and bodyaches without any real cause.(N)	14	3	8	25

#### J ILLNESSES

1	(65)	'Lice' cannot be called an illness.(N)	9	4	13	26
2	(68)	There is no venereal disease in our village.(N)	18	6	3	27
3	(76)	Most illnesses can be prevented with due care.(P)	2	0	2	27
4	(93)	Human beings will lose their tolerance to illness,if each and every ache and pain is treated with medicines.(P)	8	7	11	26

#### K HEALTH EDUCATION

1	(69)	There is little role for health education in health care.(N)	15	0	12	27
2	(72)	Even at home, health education is hardly practiced by us.(N)	19	1	7	27
3	(85)	Health education is a very time consuming affair.(N)	10	2	14	26

#### L ADDICTIONS

1	(42)	One may consume liquor but limits must be observed.(N)	10	5	12	27
2	(51)	There can be no hard work without tobacco or a smoke on chilly and rainy days.(U)	11	2	13	26

NO.	ACTUAL SEQ. IN TEST	QUESTION	DISAGREE	EQUIVOCAL	AGREE	TOTAL
3	(53)	Tobacco (burnt) damages teeth.(P)	4	1	21	26
4	(75)	Men drink because of a hard life.(N)	9	3	14	26
5	(95)	Everyone is going to have one or other vice.(N)	7	3	16	26

#### M MISCELLANEOUS

1	(20)	Whatever the illness CHWs must attend to it even at night.(U)	4	0	23	27
2	(70)	Bookish knowledge doesn't work in village situations.(N)	17	3	7	27
3	(84)	We should not depend too much upon the government for health care.(P)	6	2	18	26
4	(86)	CHWs must accompany the patient to be sent for referral care.(U)	3	2	22	27
5	(94)	We would have to admit that the previous generation was healthier than ours.	3	6	18	27

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Nurses emerge as the only category among Government paramedicals that seem to command some respect from the CHWs. But CHWs do not consider nurses to be above themselves as far as knowledge is concerned. This situation is peculiar to the project since there is a regular and substantial training input in this project. This is not to say that all CHWs know all possible required facts; but the emphasis is clearly on learning more and more and there is a perceptible mental comparison with other categories in health care. To add to this, the Government paramedical is perceived as no more than just a Family Planning / Immunization worker.

Many CHWs have a poor opinion about dais and this is understandable because not many dais are considered to be upto the mark even by the community. At the same time it is not easy for all CHWs to take on the role of Dais.

Bhagats (faith healers) do have a place in health care for some CHWs but most do not consider bhagats to be of any worth. In reality, the illness areas of bhagats do not largely overlap that of CHWs and there is not much of a case for competition among the two; however CHWs may be making a mental comparison vis a vis bhagats. The fact there is no real competition. This is borne out in the community study section by the poor role of the Bhagats in First Contact Care.

Most CHWs support the idea of free medicare but this has been contradicted by another statement (No. 52) that free medicines are not valued. This contradiction is actually not very intriguing since this confusion prevails even among health activists. Most of them feel that free medicare is the peoples' right but sooner or later undergo encounters that make them feel that free Medicare is less respected by people than one for which they (the people) have to pay. In a mixed system of free and private medical aid, this confusion is understandable.

### 3.3.2 Attitudes In The Area Of Diagnostics

There is a unanimous consensus that it is dangerous to treat illnesses without diagnostics, but a negative note emerges with the majority endorsement of the attitude that it is more useful at the level of doctors

only and not at the village (i.e., the CHW) level. This paradox is easily explained. Most CHWs are convinced that diagnostics is vital to treatment of illnesses but that there is little scope / respect for their diagnostic skills in the village. Perhaps the small size of communities served by each CHW does not allow for a sizable clinic attendance and this results in an apathy on the part of CHWs towards Medicare in general. But CHWs having large clinic attendance do not support the statement that diagnostics is irrelevant in village health care.

A special case in diagnostics is tuberculosis. Most CHWs are convinced that tuberculosis patients are 'rarely' encountered in their villages, although they admit that detecting hidden illnesses is an important task of CHWs. However most of them express a strong despair that they cannot do anything about such illnesses unless people themselves report on it. This confusion and inaction is possible in case of illnesses like tuberculosis unless special programmes (early detection and follow up) are undertaken.

### 3.3.3 Attitudes Regarding The Village Community

Lack of agreement is what characterizes the CHWs' views regarding the village and the people. CHWs have expressed agreement with conflicting views, like, it is difficult to improve the lot of people, that people do change though slowly, that peoples' will has to be respected, yet ignorance abounds in the village, that they do not act with unity and that people want everything without the necessary efforts and yet life is happier in a village than in a city. This confusion need not imply a fault in the instrument of attitude testing. Presumably such conflicting statements/cliches constitute the prevalent stereotypes regarding rural realities. In fact the evaluator has also found it difficult to disagree with most of these statements. In some way such testing makes CHWs think afresh on these matters. Again, attitudes about matters like these are not necessarily stable and people easily switch stands according to their moods and/or convenience.

### 3.3.4 Attitudes Regarding Nutrition And Hygiene

Attitudes about nutrition and hygiene are likely to be



more stable than those about the village community, since there is little cause in everyday encounters, to change the concerned attitudes. Also, most of these matters are decided on the level of general awareness and information. Thus, after all the training inputs that have gone into the programme, CHWs have been able to accept the statement that stored water from the day before does not become 'stale' or dirty the next day. They have also realized, even if not as yet internalized the fact that water can be contaminated by the seemingly innocuous act of dipping hands into it. But the majority of CIWs are yet to be convinced that flowing water/ (streams) are not necessarily cleaner than stationary collections of water; they equate the latter with stagnant and bad water. This is sharing the lay belief that streams cannot be contaminated, or perhaps are less likely to get contaminated than 'stagnant' water. The majority attitude on latrines is that latrine construction is a difficult, almost impossible proposal and that it cannot be done until the next generation. However most of them do not feel that it is bad to have a latrine close to the homes.

Concerning other sanitary reforms, the smokeless chullha is considered to be a very worthy implement by most CIWs, but soak pits are not considered to be relevant by about half the CIWs. There is ready agreement that a handwash with soap or ash is essential after defecation and what is more, CHWs seem to have distanced themselves from the concept/ practice of using stones and pebbles for anal cleansing - a practice that is otherwise common in this tribal region. (The epidemiological implications of using stones/pebbles/leaves is not a very researched area as yet. Therefore to promote or demote it is a value based judgement at this point of time). There is no significant adherence to vegetarianism and most CIWs feel that it is not irreligious to eat meat. Most agree to a statement that personal hygiene is easier said than done. This must be viewed from where the CIW stands and not from an outsider's standpoint.

Latrines seem to be a special hurdle to overcome in CHW attitudes but it must be said that this is more of a socio-economic handicap than a behavioral problem, and attitudes will largely follow socioeconomic changes and not vice versa in this case.

It will be pertinent to raise here the point of distinguishing between attitudes that cannot be changed except through long-term socio-economic changes and others that are largely behavioral in origin. Washing of hands after defecation is more readily realizable than the construction of latrines, and CIW programmes should concentrate more on the more feasible goals.

### 3.3.5 Attitudes Towards Self (Self-image)

The pattern of responses on self-image are perhaps the most revealing section of attitudes. It is heartening to see that CHWs strongly feel that they have an edge over bazaar doctors, at least when it comes to diagnostics.

But CHWs come up against a wall when confronted with the advantage that the bazaar doctors have in the form of injections (and saline infusions) that make most bazaar doctors look more effective in the eyes of the people. CIW projects need come up with a strategy to overcome disadvantage to CIWs due to the lack of injectables in their bag of healing techniques. It was categorically stated in an open and unstructured sharing session that injections are the most important skill the CIWs want to learn. The common bazaar doctor, is poorly equipped in knowledge and skills. Injectables constitute the only trick that enables them to survive and prosper. Although many CHW projects do not think in terms of weaning away the clientele attending private clinics in favor of CHWs, such complacency is bound to affect the vitality and strength of CHW programmes.

CIWs also strongly feel that a stethoscope is a must for them. Are stethoscopes necessary for CIWs? Will such a 'symbol' distort the vision with which CIW projects are launched? Answers to such problems need careful and long-term consideration. If a stethoscope is technically a need, there is no reason why they should be withheld from CIW programmes. One would need to examine the range of clinical activities of the CHW programme before deciding on such a need.

CIWs entertain a feeling of superiority over nurses (and other paramedicals too) as regards knowledge



of health care. They also feel that they are more useful to the village than a doctor in the town, but they also emphatically feel that villagers are yet to realize their (CIWs) worth. Then there is also a firm belief that the village community will be worse off without their (CHW) services. Many CHWs feel that community members seek medical help from CHWs only because medicines are provided by them free of cost.

The above feelings and contradictory attitudes can be ascribed to the fact that the CHWs are still a 'hanging bridge' between the community and the health / medical care system, their slot is technically certain but socio-politically less so. Therefore they have to constantly compete with the presence of private doctors having extra gadgets and equipment.

There is an understandable uncertainty among CIWs over whether the health care work will continue if Vachan stops the supply of drugs.

As expected there is a positive response to a statement confirming that individually CHWs feel a compulsion for cleanliness after taking to health work as CHWs.

Most CHWs do feel that to be a CHW is a life time engagement. Again, most of them strongly disagree that the job degenerates to a boring routine after 2-3 years. These responses however, could be either superficial or generated out of a vested interest and one has to study attrition factors over long periods before believing in such statements. At present it is too early to say anything on this issue. Nevertheless it is to be noted that only two CHWs have left their job so far.

Most CHWs strongly agree that 'healing people' brings real happiness.

Apart from the objective assessment, the exercise, by calling upon them to reflect upon the pains and pleasures of being a CIW is itself a rewarding one. The net output of this exercise leads one to believe that Vachan has been able to foster some positive attitudes in CIWs while enhancing their self-image.

### 3.3.6 Attitudes Regarding Family Planning

The section on family planning, which forms a marginal activity for Vachan CIWs, brings home the fact that the popular concepts among the community are shared by CHWs too. Most of them feel uneasy about advising permanent sterilization unless couples have 4-5 children, they feel that FP is a difficult subject to discuss with the village community. A majority feels that 2-3 children is not an adequate norm for peasant families. But they share the general belief (slogan?) that increasing population is the root cause of poverty.

On methods of sterilization, vasectomy is something even CIWs rarely think about. Further they feel that people hardly need FP advice and that people prefer permanent sterilization to spacing options once the desired family size is attained. A corollary to the above that families should procreate children quickly after marriage, and then go in for permanent sterilization, brings on a sharply divided response.

The Government Family planning programme in this region has not been effective in terms of quality and coverage. Since FP and immunization are almost the sole pre-occupation with Government paramedicals, there is a distancing of CHWs from the programme and the attitude scale instrument brings out the reservations CHWs have about FP.

### 3.3.7 Attitudes Regarding Herbal And Traditional Remedies

CHWs feel that people no longer trust herbal remedies and that these remedies are mostly for those who cannot afford the price of drugs/injections. Nevertheless an awareness of the value of traditional remedies emerges in their response that some herbs are good cures. Vachan's programme has not been very strong on herbal remedies and this added to the fact that there is an overwhelming switch of public loyalties to modern remedies, renders the above responses rather predictable.

The concept of 'pathyas' (things to be observed) and 'apthyas' (forbidden things) in connection with illnesses has received support from the CHWs.



### 3.3.8 Attitudes Regarding Gender Issues

'Women' as an issue generated strong reactions. Most CHWs (including women CHWs) strongly feel that the custom of isolating a menstruating woman need not be respected. They also dismiss the fear that the mere touch / contact of menstruating women is enough to destroy the fruition of trees. Yet many of them strongly agree that women should eat their meals only after males have eaten theirs.

There is no faith in the statement that women are sturdier than men when it comes to tolerating i.e., bearing up under an illness. About women's illnesses, CHWs feel that white discharge is a very messy affair to treat. Many of them have also recorded that women do not complain of backaches/bodyaches without real cause.

### 3.3.9 Attitudes Regarding Addictions

The matter of addictions evoked some unexpected responses. Though approximately half of the CHWs strongly disagree that liquor is acceptable within limits an equal number would rather turn a Nelson's eye to the custom of alcohol intake within limits. Most CHWs strongly feel / agree that men drink because of hardships. Further, they are equally emphatic in endorsing tobacco chewing as being essential to a life of toil in chilly and rainy weather. Yet on the other hand they are convinced that the custom of using burnt tobacco (misri) for cleaning one's teeth is a bad thing. Incidentally this is a common practice common among the women of the region and it is reported to be a custom that offers women an opportunity to and the means by which to relax amidst their daily drudgery.

Liquor has always evoked mixed responses at all levels of public awareness. The moral position of abstaining from liquor is usually the ideal but real life situations are at variance with this and CHWs and others alike are found to be confused on this issue. Perhaps there is a thin line separating the custom of social drinking from hard addiction and this accommodates most of the fence-sitters. Vachan, incidentally has now included 'Daru-Bandi' (Social ban on alcoholism) in its programme.

### 3.3.10 Other Health Care Issues

On reactions to other issues related to Medicare, CHWs feel strongly committed to patient care even if the patients come to them during the late hours of the night, whatever the illness. Then there is a consensus that CHWs must accompany patients referred to towns for further health care. CHWs in this project consider books indispensable even in village life. There is fair agreement on not depending on the Government for health care, this is understandable since there is little visible presence of Government health care in this region.

Comparing health status across generations, CHWs feel that the earlier generations enjoyed better health status. This phenomenon of saying 'the earlier generation was stronger and healthier' is observed in almost all communities, despite the fact that mortality had a greater visible presence in village communities in earlier generations. However mortality is generally replaced by morbidity considerations and notions of 'strong and sturdy bodies' when comparing health status across generations, in which case, perhaps, the CHWs might well be correct.

### 3.3.11 Attitudes On Other Miscellaneous Issues

On miscellaneous illnesses, lice infestation seems to be an accepted part of village life rather than an illness for most CHWs. Further there is a positive feeling that many illnesses can be prevented with due care. On venereal diseases, only a few CHWs feel that their villages can be immune to these illnesses.

When confronted with the proposal of suffering through an illness without medical intervention, (which is what tribal communities are used to down the ages), there is an understandable lack of agreement.

Health education is something that CHWs feel is essential in health care, even at home ! But many of them feel that it is a very time consuming job. This problem of health education - intellectual conviction but operational hamstring - is a universal story in many CHW projects. Health education through non-formal occasions such as patient contact and informal chats with people often goes unmentioned.



### 3.3.12 Attitudes study - Our gains !

Probing into the mindset of CHWs is vital to CHW programmes and attitude training should be an important component of CHW training (Hammond, 1985). There are a number of practical problems associated with attitude measurement. Yet, the agreement scale is a widely accepted method of assessing attitudes of a large group (Henerson 1987). Designing an appropriate instrument of statements that allows many shades of opinions on each statement/issue is vital to the exercise. Avoiding cliches and worn out propaganda slogans is important. The quality of the instrument, with respect to the

target group, is usually seen in the distribution of responses to individual statements. If there is a concentration of opinion at either end of the scale, it should be considered as inappropriate and must then be finely tuned. An important rule is to avoid value loaded statements and to provide 'neutral' looking statements. The worth of each technique will be evident through use in various comparable groups.

The attitude assessment provides us with some fresh insights on the self image of CHWs, their desires and vexations. In the long run this will be of immense help to the programme.

## PART II

### CHWS THROUGH THE EYES OF THE COMMUNITY

Community opinion regarding CHWs was assessed as part of a KABP (Knowledge, Attitudes, beliefs and practices) survey in a sample of the villages, by administering a structured interview schedule.

This viewing of the CHWs through the eyes of the community was essential since all the earlier sections dwelt on the CHWs themselves.

#### 1 OBJECTIVES

1.1 To study the profile of the CHW in the eyes of the community

The main areas of enquiry of community opinion were :

1.2. To estimate the utilization of the CHW services

First contact care (FCC), reasons for preferring a particular agency for treatment, tasks performed by CHWs and the quality of curative services offered by them, any noteworthy expectations and/or complaints about the CHWs and a profile of perceived illnesses profile in the village.

1.3. To identify the needs, expectations and complaints of the village communities in the context FCC.

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## 2 METHODS

### 2.1 GENERAL DESIGN

The study consisted of administering a structured interview to a sample of the population.

#### 2.1.1 Selection

A two stage sampling procedure was used to select first a) villages and then b) households. We decided to study about 10% of the population, which worked out to about 178 households.

Villages were selected on the basis of stratified random sampling. All villages were classified according to the seniority (length of working) of the CHW in that village. Category A (CHW working for > 3 years), Category B (CHW working for a period more than 1 year but less than 3 years) and category C (CHW working less than one year). Two villages (or village groups) from each category were then selected, each with a male and female CHW, as shown in Table 16.

After selecting the villages, about 25-30 families were selected from each of the CHW served villages (or village group). At this stage either a part or the whole of the village was studied, depending upon the size of the village. Where villages were big enough, every second or third household was selected randomly. Where a CHW covered a group of villages/hamlets an adequate proportionate sample was taken from each component. A house found closed was replaced in the study by an adjacent household. There was little chance of sample bias in this procedure since nearly half or one third (sometimes the whole) of the village was covered in this sample.

The interview schedule was prepared after 3-4 informal discussions with community groups in other project villages. The interview schedule developed was pre-tested in two villages before administration. The study sample dealt only with 6 out of the 20 villages in which 31 CHWs are working, either alone or in pairs. But this smallness of sample is offset by stratification on the basis of levels of work

experience. Subsequent sampling of units of the study - households - covered nearly half the members of each village under study. Thus this is a fairly strong representation. Further there is no known reason to believe that extending the study to other villages would have brought us any more information since almost all factors associated with the interpretation were present in the study sample.

There were two survey teams consisting of 4 members each with a team leader- cum- supervisor among them. The questionnaire and strategy was discussed in a session preceding the actual survey and actual demonstration was carried out in a non-study-sample village.

Each team member covered about 6 to 7 households in one unit (village and hamlets covered by one CHW) taking about 20-30 minutes for each interview.

The survey was conducted on two consecutive days, covering two units in each of the morning and afternoon sessions.

Thus each team covered three units independently. About 5-6 cases from each unit were checked by the team leader in that unit and an equal number of cases supervised while the team members conducted the survey.

In household surveys, only one member (the obvious 'talker') was interviewed but responses from other members were also considered if the main respondent agreed with the same. Often 3-4 members talked collectively but while this was encouraged, the final word was taken only from the main respondent.

### 2.2 QUESTIONNAIRE

Part A of the questionnaire dealt with identification data.

Part B dealt with questions on any illness encountered in the family in the last one year (time frame not very

rigorous) and the kind of treatment (who treated the illness) if any, the result of the treatment (cured or otherwise), any subsequent action if not cured, reasons for non-treatment etc..

Part C consisted of questions on the preferred agency for FCC.

Part D was an attempt to get information on why the community preferred a particular treatment agency, in terms of type of illness and some other aspects such as access, affordability etc. A small list of illnesses was read out to the respondent in this part and the respondent was requested to decide who was the preferred agency for each illness. Any extra information was also entered.

Part E dealt with the community opinion on ANMs and the tasks performed by ANMs.

Part F had an open ended approach on illnesses encountered in the villages. The respondents were asked to mention illnesses that occurred most in the village. (No leading questions were asked). Further, they were asked to mention 'nasty or troublesome illnesses'.

Part G dealt with the profile of the CHW. The questions included enquiries about the tasks performed by the CHW, illnesses that the CHWs can and cannot treat, whether CHWs physically examine with respect to illness reported, whether they inform their patients about the type of illness, follow up after treatment, accompany referrals to the referral center and attend to gynecological complaints. This part also included expectations and complaints about the CHW; if any. Then there was an open ended question on what was the overall benefit of having a CHW in the village. A question next was about 'rating' the CHW services in terms of 'annas' (commonly used term for estimating anything in the community..anna being 16th part of a rupee). Respondents were also asked how they rate the CHW vis-a-vis visiting doctors, if any. Finally, a question was included to know if villagers would be prepared to pay the costs of medicines.

The last part (H) had specific questions on some tasks in connection with female CHWs, about ante-natal care, assisting the Dai in childbirth services, attending Gynecological problems and family planning services.



**TABLE NO. 17 : RESPONSES OF THE STUDY POPULATION ABOUT FIRST CONTACT CARE USED LAST YEAR**

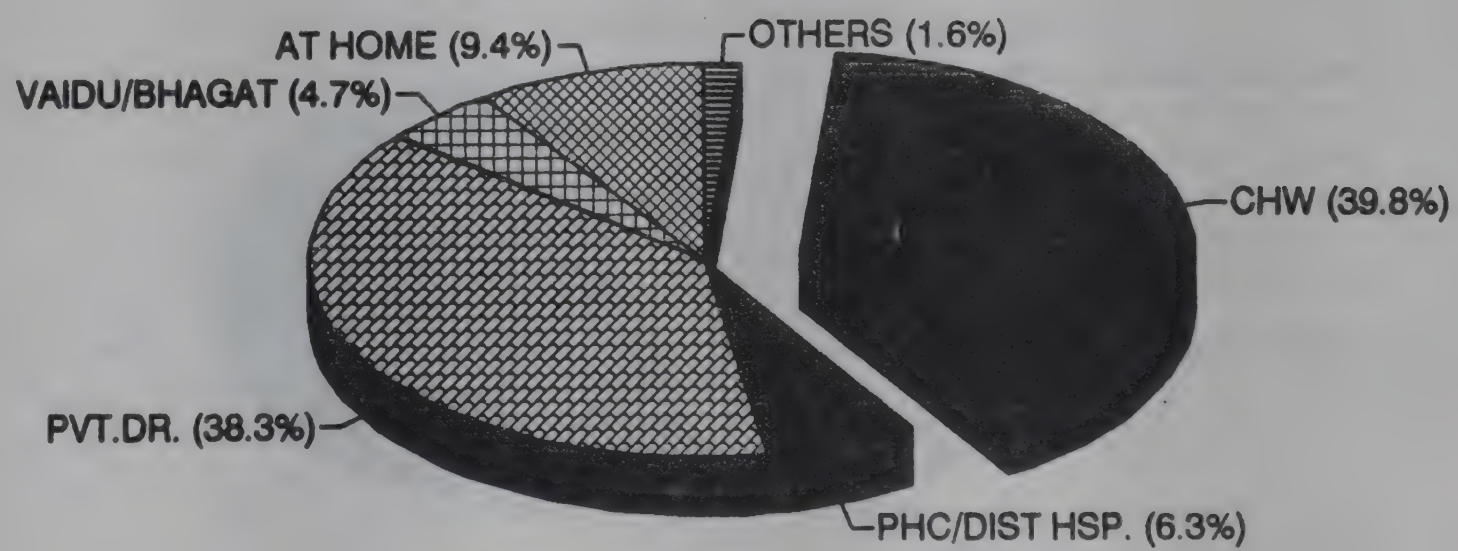
NO.	AGENCY OF MEDICAL CARE	(A) USE IN THE LAST YEAR		(B) PREFERENCE STATED	
		FREQUENCY	%	FREQUENCY	%
1	AT HOME	12	9.38%	13	8.13
2	VAIDU	01	0.78%	03	1.88
3	CHW	51	39.85%	85	53.13
4	BHAGAT	05	3.90%	04	2.50
5	ANM	00	0.00%	0	0.00
6	DEVI DOCTOR	00	0.00%	0	0.00
7	PVT. PRACTITIONERS (IN NEAR BY TOWNS)	49	38.28%	51	31.88
8	GOVT. DOCTOR	06	4.69%	2	1.25
9	DIST. HOSPITAL	02	1.56%	1	0.63
10	OTHER	02	1.56%	1	0.63
	TOTAL	128	100%	160	100.00

**TABLE NO. 19 : COMPARING QUALITY OF CHW SERVICES WITH COMMUNITY PREFERENCE FOR FIRST CONTACT CARE**

NO.	VILLAGE GROUP	ADDITIVE SCORES OF QUALITY OF CHW SERVICES	% OF COMMUNITY SEEKING FIRST CONTACT CARE WITH CHW
1	LAXAMANPADA GROUP	754	72.72
2	RAIPADA	545	59.00
3	DAHLEWADI	600	23.09
4	VIJPADA GROUP	596	56.25
5	AWHATE	490	59.09
6	DEVGAON	420	56.66
SEE TEXT ON TABLE NOS. 26A TO 26E.			

## RESPONSES ABOUT ACTUAL USE FOR FCC

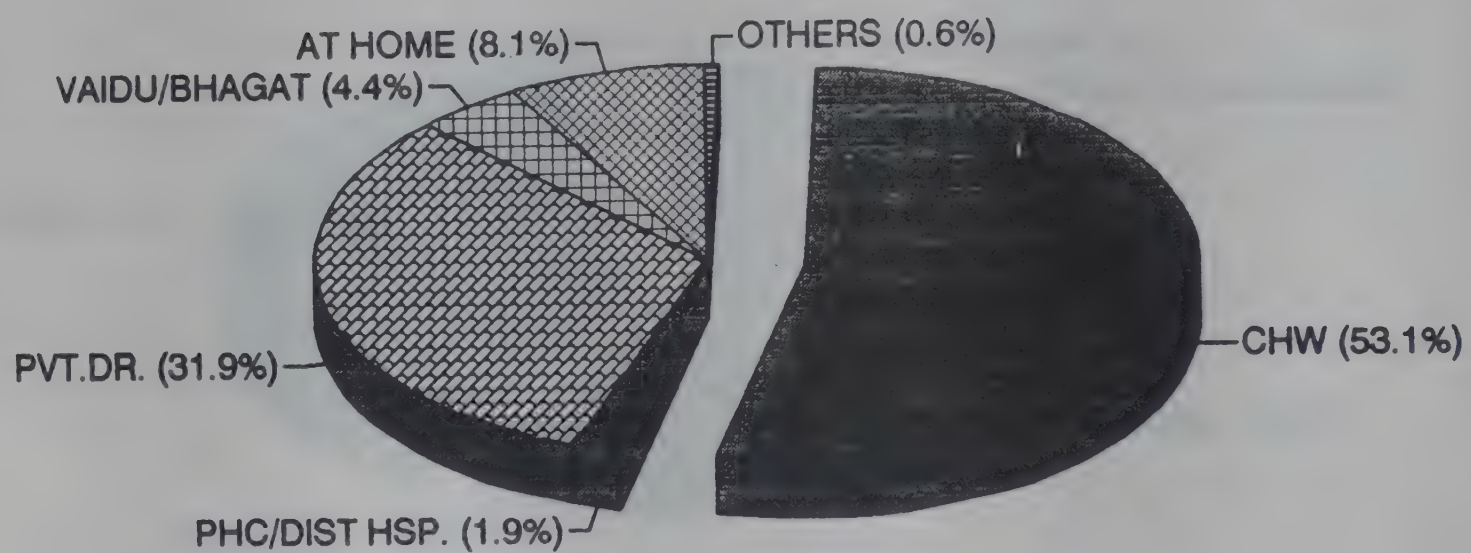
PERCENTAGE FREQUENCY





## RESPONSES ABOUT PREFERENCE FOR FCC

PERCENTAGE FREQUENCY



### 3 OBSERVATIONS AND DISCUSSION

We are aware that KABP studies are viewed with some suspicion for the flippancy with which they are conducted and the flights of inference made from limited and poor data. We do not claim that this study is a perfect exercise but the worth of KABP studies as a tool to systematically monitor community opinion cannot be overlooked.

#### 3.1 MEDICAL AID FOR ILLNESS IN THE LAST YEAR

From Table No. 16M we see that out of the 160 households questioned in the survey, 128 had some illness in the family and sought some medical aid in the episode. This shows that the community has taken to seek medical aid for illnesses in a good measure and that only few instances go unattended. Is this phenomenon attributable to the presence of CHWs? It is difficult to answer this question in the absence of a non-CHW village data. Informal enquiries have however confirmed that CHW presence has made the difference. Whether this 'tendency' to seek medical aid in every illness episode is right or wrong is another matter.

In the same Table we notice that about 40% of the surveyed households sought medical aid with the Vachan CHW. This figure is only marginally higher than that (38%) for private practitioners situated in nearby towns / big villages. Both these categories account for nearly 78% of medical aid received by the community. About 12% have preferred home remedies and a negligible proportion (5%) have gone to the bhagats (faith healers). This shows that given reasonable alternatives, communities give up traditional and less effective methods of health care.

Contrary to popularly held opinion regarding tribal communities, Bhagats do not constitute a serious obstacle to national health services. Again it must be borne in mind that Bhagats attend only certain illnesses that are not covered by other categories.

#### 3.2 PREFERENCES IN FIRST CONTACT CARE

Table No. 17M deals with the preference people have for various categories of medical aid as regards FCC. We noticed that the communities in various villages preference for CIWs for FCC ranges from 23% to about 73%, the average being 51% for the study population. Private practitioners come next with 31%. This clearly shows that CHWs have definitely earned a place in the community in terms of first contact care. At Laxman Pada most households reported that they nearly always consult the CHW before taking any decision on medical matters, minor or major.

The Laxman Pada statistic (on first contact care) confirms the popular notion that most day to day health problems (80%?) can be helped at the village level'. The CIW at Laxmanpada is one of the best. This was borne out by the programme staff as well as the tests conducted in this study. Table No. 18M offers a comparison of the percentages of FCC and the quality score of CIWs in the 6 villages studied. Even without statistical calculation there is an obvious correlation in the two series. However there are many other factors than just the quality of CHW services that affect their utilization.

Should CIW programmes assess themselves in the light of competition between CHWs and private practitioners for first contact care? Prima facie there is every reason why this should be so. It can be argued that CHW projects should not shy away from such assessments for the simple reason that there is a great overlap in the kind of medical aid both categories have to offer; with private practitioners of the type that are found in rural areas only marginally (or not at all) better equipped than the CIWs in terms of knowledge of health care. There are also extra-academic factors like injections, professional setup, legal backing and an understandable value attached to 'paid-for services rather than free medical aid' etc., that are responsible for differential preference.



**TABLE NO. 25 : ILLNESSES CHWS CAN TREAT OR CAN NOT TREAT -  
COMMUNITY OPINION !**

NO.	ILLNESS	TOTAL RESPONSE		TOTAL %	NON RESPONSE	TOTAL
		CAN (%)	CAN'T (%)			
1	FEVER	91(86.6%)	14(13.4%)	105(100%)	55	160
2	COUGH	41(91.1%)	4(8.9%)	45(100%)	115	160
3	HEADACHE	51(92.7%)	4(7.3%)	55(100%)	105	160
4	STOMACH-ACHE	47(88.7%)	6(11.3%)	53(100%)	107	160
5	DIARRHOEA	36(54.5%)	28(45.5%)	64(100%)	96	160
6	DYSENTERY	11(100%)	0	11(100%)	149	160
7	ARTHRITIS	3((21.4%)	11(78.6%)	14(100%)	46	160
8	COLD	7(70%)	3(30%)	10(100%)	150	160
9	MINOR ILLNESS	1(33.3%)	2(66.6%)	3(100%)	157	160
10	FATAL ILLNESS	2(20%)	8(80%)	10(100%)	150	160
11	CHICKENPOX	1(16.6%)	5(83.4%)	6(100%)	154	160
12	PARALYSIS	1(50%)	1(50%)	2(100%)	158	160
13	SERIOUS ILLNESS	1(50%)	1(50%)	2(100%)	158	160
14	SNAKEBITE	2(18.2%)	9(71.8%)	11(100%)	149	160
15	SCABIES	3(42.8%)	4(57.2%)	7(100%)	153	160
16	WOUNDS	1(100%)	-	1(100%)	159	160
17	STOMATITIS	6(100%)	-	6(100%)	154	160
18	BOILS	3(100%)	-	3(100%)	157	160
19	WORMS	1(100%)	-	1(100%)	159	160
20	PHYSICAL ILLNESS	1(100%)	-	1(100%)	159	160
21	GYNAEC COMPLAINTS	1(50%)	1(50%)	2(100%)	158	160
22	TUMOR	-	-	-	-	-
23	BLISTERS ON THE BODY	1(100%)	-	1(100%)	159	160
24	T.B.	1(16.6%)	5(81.4%)	6(100%)	154	160
25	POSSESSION SYNDROME	1(50%)	1(50%)	2(100%)	158	160
26	BODYACHE	4(50%)	4(50%)	8(100%)	152	160
27	DELIVERY	1(50%)	1(50%)	2(100%)	158	160
28	ANEMIA	-	1(100%)	1(100%)	159	160
29	LEUCOR-RHOEA	-	1(100%)	1(100%)	159	160
30	TETANUS	-	3(100%)	3(100%)	157	160
31	GIDDINESS	-	1(100%)	1(100%)	159	160

**TABLE NO. 26 : EVALUATION OF CHW SERVICES BY THE COMMUNITY**

NO.	RESPONSES	DOES CHECK UP	EXPLAINS AILMENT	FOLLOWS UP IN ILLNESSES	ACCOMPANIES TO REF.CENTER	TREATS GYNEAC COMPLAINTS
1	YES	56.00	43.13	63.75	45.00	43.75
2	NO	30.00	39.00	20.63	30.00	24.38
3	SOMETIMES	-	-	-	1.88	1.88
3	CAN NOT SAY	3.13	6.25	6.25	9.38	13.13
4	NO RESPONSE	5.63	6.88	8.75	8.75	10.63
5	NOT APPLICABLE	5.00	3.75	0.63	5.00	6.25
	TOTAL	100.00	100.00	100.00	100.00	100.00



It is noteworthy that this share of FCC has been achieved without injectables in the hands of the CHW. If this is so and if one accepts the thesis of 'cutting down private practitioners to size' are there ways and means to achieve a near total coverage of - say 80 % - FCC in the project area? There are obvious constraints to achieving such degrees of success. If this is a goal, some fresh thinking on the strategy and means is necessary.

### 3.3 UTILITY OF CHWS

**Table No. 31M** summarizes the community's estimation of the effectiveness of CHWs in a very qualitative and tentative manner. People are still accustomed to talk in terms of 'annas' (one anna being a 16th part of a rupee) while estimating things. The opinion of the community points towards an 'eight annas' (50 %) effectiveness of CHWs except in Deogaoan and Raipada villages. This is a very crude method of estimating such matters but serves well to provide a 'road sense'. It may be incidental that the figure of first contact care (59 %) matches well with this crude estimation of the 'usefulness of CHWs (50%)'. **Table No. 20M** deals with the preference for seeking medical aid with a certain agency (say health workers) in the light of various illnesses. Here too the CHWs lead the lot and register more preference than private practitioners in all the illnesses numbering 1-6 that account for the bulk of morbidity load. The preference for private practitioners is greater than CHWs in illnesses like bodyaches and 'serious' (undefined term) illness. Besides fevers, bodyaches are known to be the usual alibi / occasion for injectables. Bhagats naturally figure high in the 'possession' illness; which is obviously beyond the perceived capability of both the CHW and the private practitioners.

This exercise of ascribing illnesses to preference of medical care category has not been a very tight one and there are lot of loopholes and loose ends. The medical vocabulary of the community is far from adequate and it is certainly a rather loose effort to imagine why one prefers some agency for a particular illness. We do not recommend any conclusion beyond inferring that CHWs and private practitioners compete almost for almost the same morbidity list.

**Table 21M** deals with the reasons for choice of medical aid sought by the community. There is a positive and heartening observation that people seek CHW help because, in most cases, 'it cures'. The next important reason for going to the CHW is 'easy access'. The reasons for going to the doctor are : a) 'it cures' and b) 'not cured by other methods'. This clearly shows that CHWs have surely made an impact as healers.

### 3.4 SERVICES BY ANMS

**Table 22M** deals with the services of ANMs as perceived by the community. Immunization clearly emerges as the most important ANM activity in all the 6 villages. Antenatal care comes second and surprisingly, dispensing medicines is also mentioned. The response about antenatal care do not take into consideration the content or quality of services but it is known that this amounts mostly to tetanus toxoid injections and iron Tablets. Despite the fact that ANMs do not figure in the FCC (Table 18) and people have almost never mentioned going to ANMs for medical treatment, dispensing medicines is mentioned by the community. This is partly explained by immunizations and iron Tablet distribution by the ANMs. Otherwise there is no known activity of medical aid by ANMs in this region or even in the state of Maharashtra. Conducting deliveries is a legitimate function of ANMs of which mention by the community is quite poor (except in Deogaon village). This is understandable since ANMs hardly ever assist in child births in the village and most deliveries are conducted by dais.

### 3.5 ILLNESS PROFILE AS PERCEIVED BY THE COMMUNITY

**Table 23M** enlists some illnesses mentioned by the community. Fever, coughs, diarrhea, headaches, stomach-aches and bodyaches are seen to form the bulk of 'morbidity profile' as perceived by the community. This matches well with the morbidity pattern emerging in CHW ratings (Table 6) with some minor change of sequence. This exercise cannot be expected to be more rigorous than this since the morbidity vocabulary is small and it is difficult to imagine and recall illnesses when there is no occasion



dealing with the issue. What it brings out is that people have almost the same list of illnesses as the CHWs or perhaps the former is instrumental in shaping the perceptions of the CHWs.

### **3.6 PERCEPTION OF MORBIDITY BY COMMUNITY**

About perceiving illnesses as bad or dangerous ones, (Table 24M) the community fears diarrhoeas and fevers most, snakebite comes third. All these are visible illnesses (but not persistent causes of death in villages). Tuberculosis also figures in this list and surprisingly possession also is an equally feared illness. However crude, this exercise does offer the profile of 'morbidity fears' in the minds of the community about illnesses. Tuberculosis and possession are somehow practically beyond the means of the CHW at this stage, though not for the same reasons. It will be worthwhile for Vachan to take appropriate action to tackle both these problems.

### **3.7 ABILITIES OF CHWS TO TREAT ILLNESSES**

Table 25 & 25M list community opinion on illnesses CHWs can/cannot treat. The question on effectiveness of CHWs against illnesses underlines the fact that fevers are most successfully treated by the CHW. Coughs, bodyaches, stomach-aches, headaches are also effectively managed by CHWs. However diarrheas and arthritis seem to be 'beyond' the CHWs. Malaria being the bulk of the morbidity, success is easy. However diarrhea seems to be a problem. It is so even for doctors.

### **3.8 TASKS PERFORMED BY CHWS**

About tasks performed by the CHWs (Table 25) dispensing medicine is almost universally reported. Growth monitoring comes somewhat down the line. Advice about family planning, smokeless chullahs, immunization, personal hygiene are functions perceived to be of the middle order. Latrine construction is a poorly reported task. Medical aid being perceived as the first and foremost task is quite expected since the community heavily depends upon

the CHWs for medical aid. Growth monitoring is a regular activity. It has been the experience that medical aid is often the most perceived of the CHW tasks the world over. Some experts are uneasy about this fact and would blame this 'medicalization' as the undoing of the CHW programme (Chatterji 1992). However we believe what Werner has said in this connection (see Introduction), and see no reason to be apologetic on this matter.

Medical aid is important by itself. However doing well on the 'continuum' of functions ranging from medical aid to health promotion is something that Vachan has not forgotten. Vachan has undertaken a number of prevention - promotion programmes like growth monitoring, extending coverage of immunization, early registration of pregnancies, drive against liquor, smokeless chullahs and health education on select topics.

### **3.9 QUALITY OF SERVICES RENDERED BY CHWS**

The exercise to estimate the quality of CHW services, especially as regards curative care is detailed from Table 26 M-1 to Table No 26 M-5.

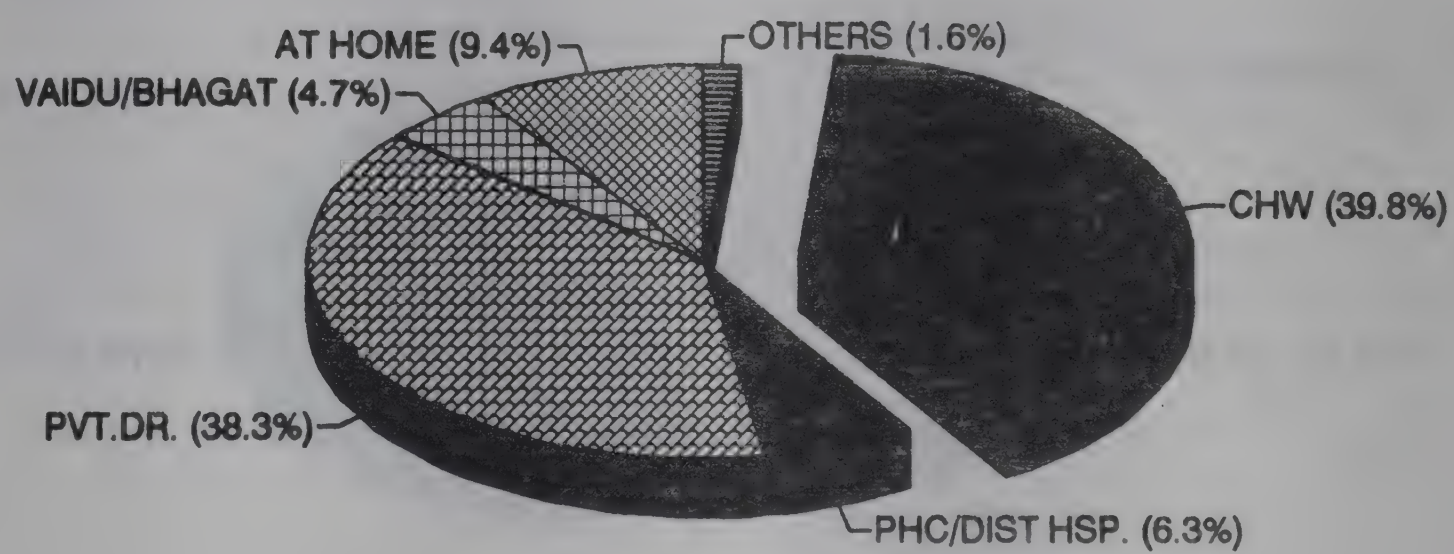
The responses of the community to five queries (see Annexure for questions) offer some idea about the various aspects of medical aid. It is seen that nearly 56 % of the responses confirm that CHWs perform some kind of physical examination, which is what Vachan is insisting upon both for diagnostic accuracy and rapport with the patients. The next question about 'explaining the ailment' scores less than half (43 %) of positive responses.

Follow up is reported at around 64 % which is quite satisfactory. Follow up in this context is context asking about the illness after treatment and/or referral.

CHWs in Vachan are not expected to accompany the patient to the referral center as a rule; but about 43 % responses affirm that CHWs accompany to the referral center. This is both good and a little problematic. It is problematic because the travel expenses in this case are often borne by the CHWs

## RESPONSES ABOUT ACTUAL USE FOR FCC

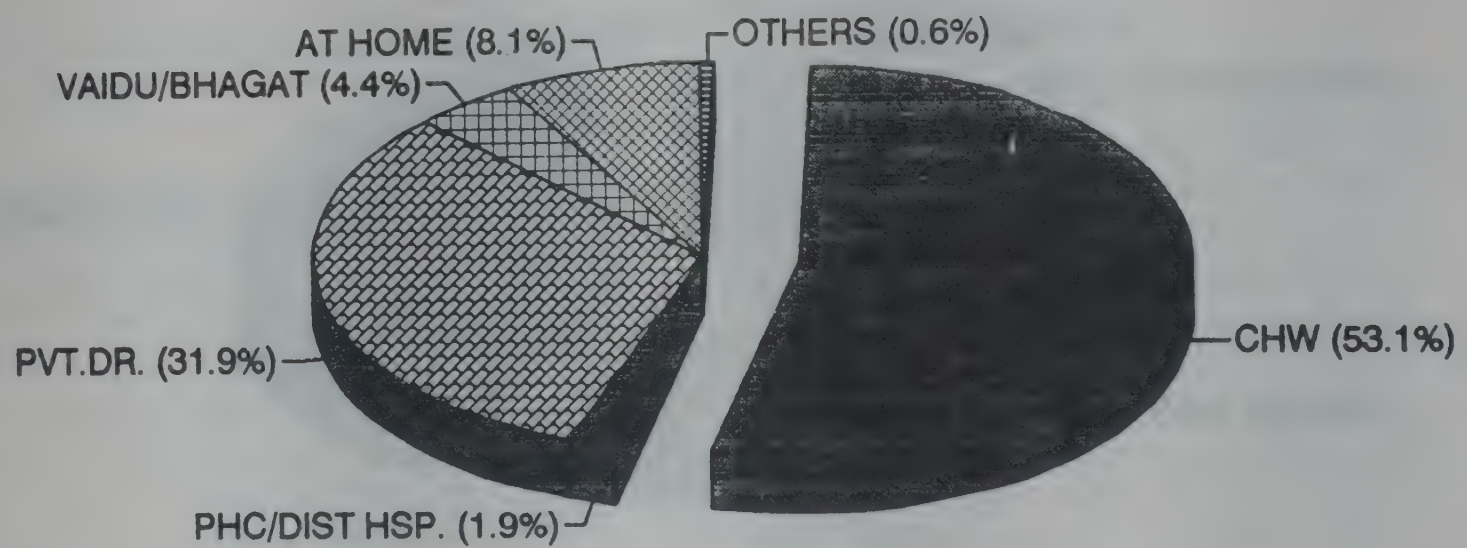
PERCENTAGE FREQUENCY





## RESPONSES ABOUT PREFERENCE FOR FCC

PERCENTAGE FREQUENCY



and there is also loss of working hours. This process will be much easier and more educative once Vachan establishes its own referral center.

The question on gynecological problems is rather facile since it is known that no VACHAN CHW offers these services; hence a positive response here just means 'enquiring' about or 'listening' to the gynecological complaints and nothing more'.

The additive score prepared from these responses is a rather crude index of quality of care (since it is not weighted) nevertheless it offers some idea about the CHW services. The score correlates well with percentages of first contact care by CHWs (Table 19) but interplay of other factors cannot be overlooked.

### **3.10 EXPECTATIONS AND COMPLAINTS**

Expectations and complaints about CHWs are outlined in Table 28M and 29M respectively. Predictably the demand for injections is supreme among the expectations, 'more medicines' being the next. The experience is of course universal and much lamented by health projects. Often this aspiration and demand for injections by the community is blamed as the principal reason for reported under-utilization of CHW services. Fortunately it has not affected Vachan's

programme that adversely. This is evident from the share of CHWs in FCC. There are occasional responses demanding that CHWs should have more training (injections ?) and also stethoscopes.

The complaint section is vitiated by the fact that villagers are unwilling to complain against their own CHW in such a public manner and that too on record. Nevertheless, there was sporadic mention about lack of medicine, not examining and not visiting patients at home.

Expectations or complaints in this exercise are more useful for listing items rather than for obtaining a statistical picture of the facts. Not that the programme is completely ignorant about the villager's possible expectations and complaints.

### **3.11 SPECIAL SERVICES BY WOMEN CHWS**

Table 32M (1 to 4) deals with services by women CHWs in relation to MCH. Vachan's programme is yet to start women's health services in a reasonable measure. Since the community is largely unaware of the kind of services that can be (and should be) made available to womenfolk, most responses on these matters have more or less lauded the women CHWs.



## PART III

### STUDY OF CHWS' CLINICAL RECORDS

#### 1 METHODS

Records can be an important source of information about the quality and quantity of clinical work done by Health Workers, provided attention is paid to the way they are kept. In Vachan, CHWs keep patient attendance registers. The entries include : serial number and date of attendance, name, age, gender of the patient, complaints, findings if any, diagnosis made, treatment offered and follow up/other remarks.

As part of the CHW study, patient records of all the CHWs were studied, starting from a common reference point of time, May 1st 1993. A hundred entries of each CHW's patient attendance register were scrutinized for symptoms/signs, diagnosis made and treatment offered. The period in which 100 patients were attended on by individual CHWs varied substantially.

Symptoms/signs and illnesses were coded to facilitate analysis. For convenience, some conditions were clubbed together (for instance, dysentery of amoebic or giardial cause was clubbed under 'amoebic' dysentery). All types of wounds were clubbed under just two categories, fresh or infected. In general the description/naming of an illness is on the level of lay reporting, a level we have already used in this study to come up with morbidity profiles.

Symptoms (and signs if any) were entered in the sequence of mention in the record. A plausible diagnosis was constructed by the evaluator in each case from the symptom / signs mentioned, in information, 'Bharatvaidyaka' manual supplied to the CHWs.

Undiagnosed entries were scored as 1; attempts to diagnose, if not correctly made, were rated as 2. Correct or 'plausible' entries were rated as score 3.

Entries of patients who had not presented themselves in person for examination were not considered for this study.

Obvious diagnoses like bodyaches, headaches etc. are considered as adequate even if no entry was made to the diagnosis column. However this was considered essential for less obvious diagnoses like pneumonia etc..

Unintelligible symptoms (like 'Vata') are entered as 'other' symptoms. When more than one illness is diagnosed, the situation is entered as a 'mixed' illness in the examiner's remark. Fever with rigors/chills was taken as equal to malaria for obvious epidemiological considerations. Cough due to 'Smoking' was similarly taken to imply bronchitis.

No weightage was attached to the gravity of illness while diagnosing (or not diagnosing) an illness.

As far as possible, the evaluator's diagnosis is 'allowed to fall in line' with the diagnosis made by the CHW giving the latter the benefit of doubt, provided adequate details were mentioned. However when adequate details were not available from the records no such benefit was conferred and entry made was : 'not adequate details' (NAD).

Good and adequate treatment is rated as score 3 (maximum). Erring on the safe side is permitted. For instance, treating any adult dysentery with both anti-amoebic and /anti-bacterial agents is treated as precise treatment. Inadequate treatment is rated intermediate (score 2). Here, a purely symptomatic treatment without root cause management is rated intermediate, as also a treatment that is the opposite of this, root cause management without symptomatic relief.



Wrong treatment is rated the lowest (score 1).

Only choice of drug(s) has been considered and not the dosage. Only drug treatment is considered and procedures like wound repair were not expected or considered. But wound dressing was the only procedure considered.

For illnesses that demanded a referral with or without first aid, treatment mentioned was judged as adequate according to the type of illness in question. For instance childhood pneumonia is supposed to be a referable illness by Vachan and so referring (with or without cotrimoxazole therapy) is rated as adequate.

Herbal treatment was very negligible in the records and so was judged in each case in the light of the manual.

## 2 OBSERVATIONS AND DISCUSSION

The records study is something that offers hard data on morbidity services rendered by the CHWs. For obvious feasibility reasons, only a portion of the records was chosen for the study. Ideally, an entire year's records should be monitored with seasonal variations also.

### 2.1 GENERAL OBSERVATIONS

Table No 33 and 33 M1 deal with attendance of patients by the 31 CHWs in the period of study commencing from May 1st, 1993. The number of days required for attendance of 100 patients varies from 32 to 142 days (average 81.3 days). The population covered by CHWs ranges from 103 to 720 (average 332.4).

### 2.2 DAILY ATTENDANCE OF PATIENTS :

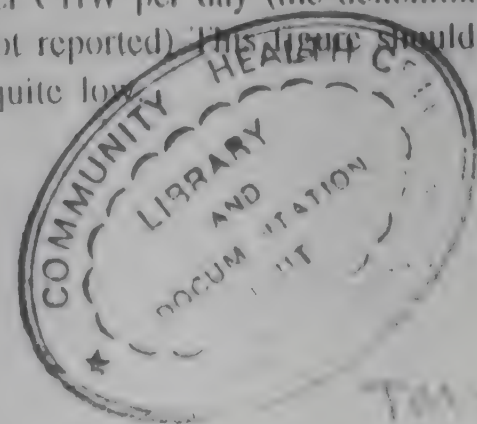
The average daily attendance in the study period varies from 0.70 to 3.13 patients per day considering the entire population of respective villages (average 1.38 per day). This works out to an overall average of 0.48 patients per day per 100 population, the range being 0.24 to 1.05 patients per day per 100 population.

Table 33 M2 presents an overview of the yearwise attendance of patients from 1989 to Dec 1993. The average attendance of patients per CHW per year has

risen from 269 (1989) to 498 (1991); there is a decline to 477 in (1993) - which could be spurious. The average daily attendance of patients has also improved from 0.81 (89) to 1.36 (92). Through 91-93 the attendance of patients has more or less stabilized around 1.30 per day per CHW.

From the records it is seen that the average daily attendance of patients recorded by men CHWs is slightly higher than that for women CHWs, the figures (ignoring denominator population-the village size) being 1.36 and 1.28 respectively. Adjusting for the denominator population (village size) the daily attendance of patients by men and women CHWs is 0.5 and 0.38 patients per day per 100 population.

The average attendance of patients by CHWs varies with a number of factors that are both internal and external to CHWs. The ability to heal, degree of professionalisation, communication and effectiveness are among the 'CHW factors'. The size and distribution of the population, availability and type of alternative health services, values about health care and local epidemiological pattern are among the important external factors deciding the size of attendance. Attendance figures from Indian CHW programmes are not available. A Nigerian study reports (Bamisaieye 1989) an attendance size of 17.1 patients per month, which is about 0.57 per CHW per day (the denominator population is not reported). This figure should be considered as quite low.





Apart from the absolute figures about utilization of CHWs services, the size of attendance has an important implication on the quality of CHW services itself. Small attendance is bound to affect the overall morale, work interest, clinical exposure and self esteem of CHWs in very critical ways. The present study reflects figures that are small with respect to attendance rates, though it is better than the Nigerian figure quoted above. As a rough guess, an attendance of atleast 4-5 patients per day should be considered essential to the 'health' of the programme. What should be done to improve the utilization and attendance, as short-term and long-term measures, is outside the frame of the study. The size of population allotted to CHWs being a more or less fixed factor, more patients can come only from covering more of the village morbidity-both visible and hidden. Surely this aspect is important in its own right too.

The difference between the average number of patients attended by male and female CHWs is favorable to the female CHWs but its reversal after adjustment to the population denominator establishes an edge for the male CHWs.

## 2.3 PATTERN OF SYMPTOMS IN THE RECORDS

Table 34 and 34M deal with 'first symptoms (presenting)' recorded in the entries of 100 patients each by 31 CHWs commencing from May 1st 1993.

It is seen from the Table that fevers (all) top the list of symptoms (1021) accounting for over 33 percent of all complaints reported.

The abdominal group consisting of abdominal pains (including burning pain), loose motions, mucous stools, blood in motions, vomiting and worms are next to fevers, with a tally of 860 (27.7 %).

Headaches (412) and bodyaches (101) together are the next group accounting for 16.5 percent of complaints, followed by coughs.

Coughs account for 4.67 percent of all the complaints. Fresh wounds account for nearly 2.5 percent of the problems attended by CHWs.

Of the total complaints in the first symptom slot, the general symptoms (that need some diagnostic exercise before treatment) include abdominal pain, loose motions, stools with blood/mucous, vomiting, all fevers and coughs. All this constitutes about 62 percent of all the complaints, the remaining being 'readily diagnosable' or local conditions.

Table 35 puts the 'first complaints' in a perspective of the same complaint appearing anywhere in all the 5 positions analyzed. Among the general complaints, fever with rigors, abdominal pain, fever without rigors, loose motions and vomiting are reported more as 'presenting complaints' by patients, in descending order. Among other complaints of local nature, headaches comprise a big group and appear in the first complaints' spot nearly 60 out of 100 times; which means about 40 percent of headaches are 'associated' with some other complaint presented.

The study of first symptoms brings out many important issues. It is generally assumed that first contact care needs little by way of diagnostics and that most conditions are self evident and simple (ICSSR & ICMR, 1981). This study shows that about 60 percent of the attendance has to be considered for some kind of diagnostic attempt, though preliminary. Abdominal conditions also emerge as an important group that needs some diagnostic exercise. Coughs largely remain outside any diagnosis in these records and whatever appears as diagnosis is mostly in the URTI categories. Despite seasonal bias in this study frame, the conclusions can be taken to be quite representative.

Can the configuration of symptoms in the individual records be used to decide the 'value' of the services of the CHW in comparison with others? Prima facie, assuming seasonal epidemiology being common to all, one can say that some CHWs attract only minor illnesses. This is seen in the fever and abdominal pain columns of Table 34M. These problems are quite common but are poorly represented in the records of some CHWs as compared to others. This implies that people have evaluated their CHW(s) in terms of proficiency. However an inference of this kind will be sound only if annual records are analyzed rather than small sections of the year's records; as was done in this study.

# APPEARANCE OF FIRST SYMPTOM *IN FIRST PLACE AND TOTAL*

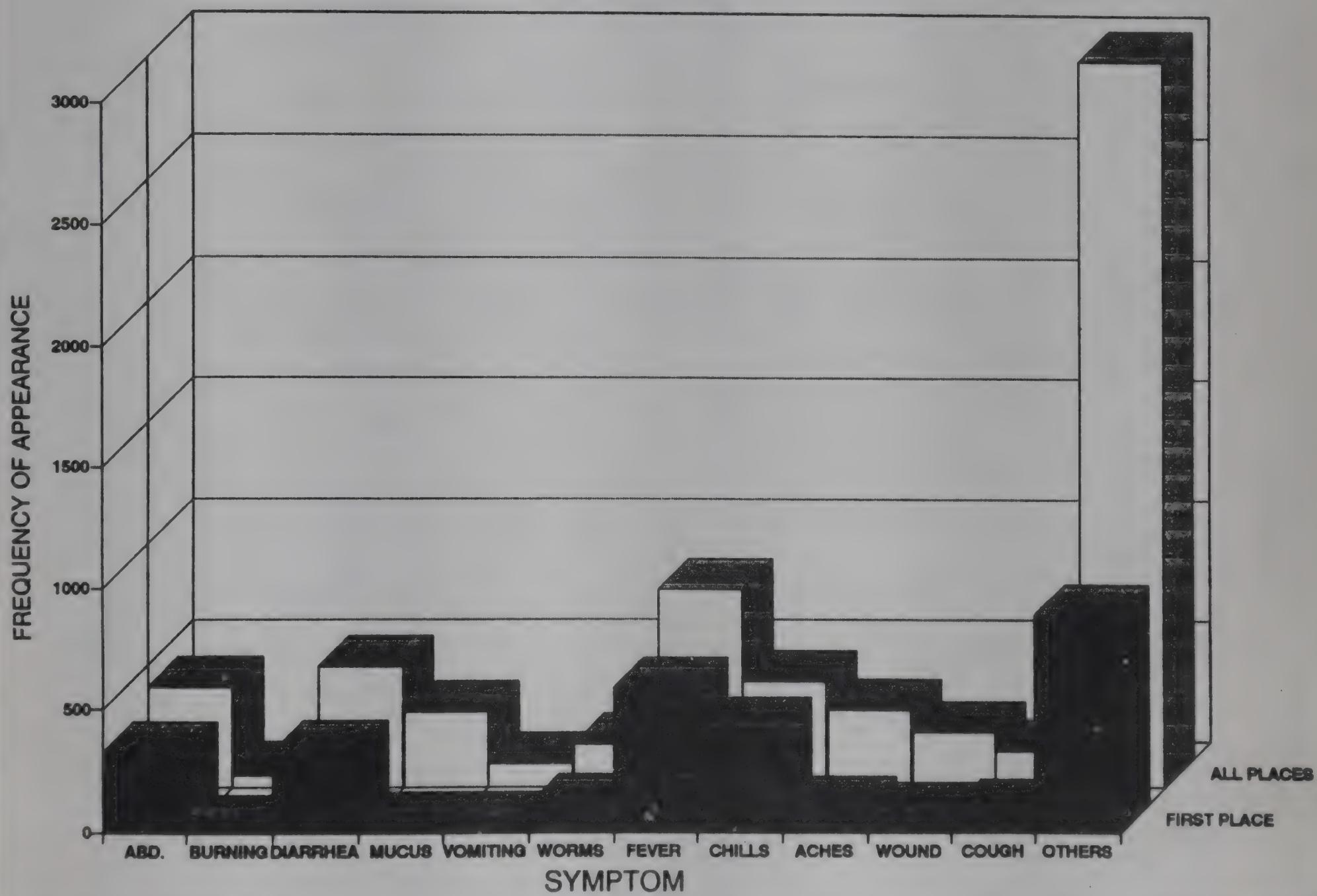






TABLE NO. 35 : PROPORTION OF APPEARANCE OF A SYMPTOM IN THE FIRST PLACE TO ITS TOTAL OCCURENCE IN ALL (1 TO 5) POSITIONS IN THE CHW RECORDS

CHW	ABDOMINAL PAIN	BURNING	LOOSE MOTIONS	MUCOUS STOOLS	BLOOD IN MOTION	VOMITING	WORMS	FEVER WITHOUT RIGOR	FEVER WITH RIGOR	BODYACHE AND BACKACHE	HEADACHE	WOUND	COUGH
A) AS FIRST SYMPTOM	327	24	328	17	19	35	110	593	428	101	412	77	145
B) ALL PLACES	407	46	494	184	125	94	174	811	431	316	689	222	85
C) PERCENTAGE, A/B	80%	52%	66%	9%	15%	37%	63%	73%	99%	31%	59%	34%	88%

TABLE NO. 36 : PATTERN OF DIAGNOSED AND UNDIAGNOSED ENTRIES ACCORDING TO FIRST SYMPTOMS IN CHW RECORDS

	ABDOMINAL PAIN		BURNING		LOOSE MOTIONS		MUCOUS STOOLS		BLOOD IN MOTION		VOMITING		WORMS		FEVER WITHOUT RIGOR		FEVER WITH RIGOR		BODYACHE AND BACKACHE		HEADACHE		WOUND		COUGH		OTHER		TOTAL	
	DIG	UND	DIG	UND	DIG	UND	DIG	UND	DIG	UND	DIG	UND	DIG	UND	DIG	UND	DIG	UND	DIG	UND	DIG	UND	DIG	UND	DIG	UND	DIG	UND	DIG	UND
N =	327	(100)	24	(100%)	328	(100%)	17	(100%)	19	(100%)	35	(100%)	110	(100%)	593	(100%)	428	(100%)	101	(100%)	689	(100%)	77	(100%)	145	(100%)	207	(100%)	3100	(100%)
NO.	249	78	20	4	255	73	14	3	16	3	22	13	109	1	305	288	415	13	42	59	585	104	75	5	87	58	114	93	2308	792
%	76	24	83	17	78	22	82	18	84	16	63	37	99	1	51	49	97	3	41	59	84	16	97	3	60	40	55	44	74	26



## 2.4 PATTERN OF DIAGNOSIS AND NON-DIAGNOSIS

Table 36 deals with the proportion of diagnosed and undiagnosed entries by categories of important general symptoms. It appears that fever with rigors, being equated with malaria is almost always diagnosed but the same is not true about other fevers, which go undiagnosed nearly half the times (49 %). Cough is another complaint that remains undiagnosed in a sizable measure (40 %). Abdominal conditions like pain, loose motions, blood and mucous in stools are diagnosed in a fair measure. Worms are diagnosed only on the criterion of 'worms in stools' and so obviously seem to be diagnosed well, however the hidden worms load is out of sight in this study frame.

Table 37 depicts a different perspective of the diagnostic factor through the eyes of the evaluator. In this case the evaluator had judged the 'diagnosability' of first symptoms on the basis of available clinical information. So it was decided whether the diagnosis made by CHWs in each case was 'allowed' or 'not-allowed' due to inadequate clinical details. This exercise shows that diagnosis was not possible in 1065 entries which includes the entries remaining 'undiagnosed' by CHWs. Occasionally a diagnosis was allotted by the evaluator on the strength of recorded symptoms even if the CHW had failed to arrive at one, as evident by a confused or a wrong treatment. In this sense about 34 percent of entries remain 'undiagnosable', and an important observation is that about 72 percent of fevers (without rigors) are not diagnosable from the records. Coughs record a similar plight with nearly 72 percent of cases remaining 'undiagnosable' from the records. The next condition that is poorly attended to is abdominal pain, barring the burning pain of acid peptic disease. Vomiting is comparatively rare (only 35 entries as first symptom) and remains undiagnosed in 60 percent of cases. Table No 38M classifies undiagnosable conditions by the categories of select general symptoms in the 31 CHWs records. There is a great variation in the 'diagnosability of records' among the 31 CHWs, both overall and symptom specific. Overall undiagnosability among CHWs records ranges from 6 to 69 percent. Fever without rigors, a major presenting complaint accounts

for nearly 40 percent of the undiagnosability, with abdominal pain (12 %) and cough (9.8 %) following.

Table 40 and 40 M1 offer an overall evaluation of the diagnostic effort seen in the CHW records. About 57% entries were either not diagnosed or diagnosed wrongly. Diagnosis, either correct or tangible, is observed in about 43% of entries. These figures are bound to vary with seasonal epidemiological changes but are adequate to tell us how much ground has been covered.

Making a diagnosis where it is pertinent has been a major point in the training programmes of Vachan CHWs. Looking at the undiagnosed proportion, fever without rigor and coughs, remain the weak spots in the clinical programme with abdominal pain following closely. There is a lot of variation in the measure of diagnosis among various CHWs (not seen in these pooled Tables) and the differences and attributes can be studied for identifying the possible causes of weaknesses of individuals. A major hamstring on this analysis will be a time bias in this study, making possible large variations in the numbers of reported illnesses due to seasonal epidemics. It is possible to assume that this effect is minimal between records since geographical conditions are similar but CHWs completing the 100 required entries in a shorter period will be missing in the records of the rainy months that experience morbidity patterns with a difference.

Importance of diagnostics in FCC is an issue that has been neglected by health activists for long. But some attempts have been made to improve FCC in this connection. One major attempt is reported by Essex (Essex B. J. 1982) on the use of flow charts in Tanzania. Essex claimed a 94% agreement rate between doctors and health workers (the latter using flow charts) (Essex 1982). However subsequent evaluations have ended on a negative note on the use of flow charts (Morely 1994). Vachan's health programme also uses flow charts and diagnostic Tables from the training manual (Ashtekar 1992). Without systematic enquiry into the use of these diagnostic aids, we have gathered an impression that these aids are commonly used by some CHWs, who form the 'cutting edge' among CHWs, and that fever,



PATTERN OF DIAGNOSED/UNDIAGNOSED ENTRY  
FIRST SYMPTOM IN CHW RECORDS

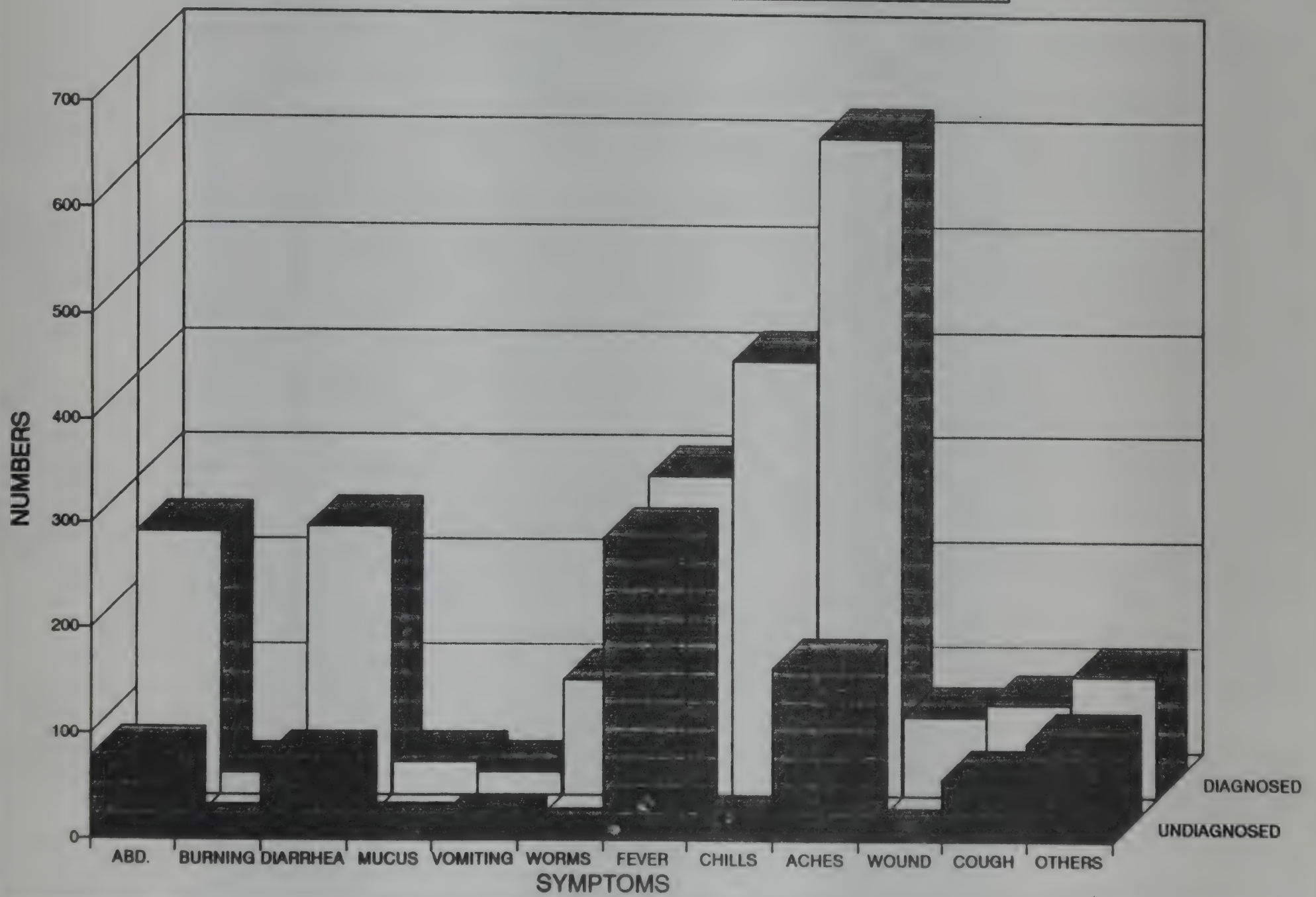






TABLE NO. 37 : EVALUATOR'S OPINION ABOUT DIGNOSABILITY OF ENTRIES IN CHW RECORDS :  
PATTERN ACCORDING TO FIRST SYMPTOMS

	ABDOMINAL PAIN	BURNING	LOOSE MOTIONS	MUCOUS STOOLS	BLOOD IN MOTION	VOMITING	WORMS	FEVER WITHOUT RIGOR	FEVER WITH RIGOR	BODYACHE AND BACKACHE	HEADACHE	WOUND	COUGH	OTHER	TOTAL
N =	327(100%)	24(100%)	328(100%)	17(100%)	19(100%)	35(100%)	110(100%)	593(100%)	428(100%)	101(100%)	689(100%)	77(100%)	145(100%)	207(100%)	3100(100%)
	DIG UND	DIG UND	DIG UND	DIG UND	DIG UND	DIG UND	DIG UND	DIG UND	DIG UND	DIG UND	DIG UND	DIG UND	DIG UND	DIG UND	DIG UND
NO.	199 128	23 1	250 78	16 1	19 0	14 21	109 1	168 425	420 8	37 64	544 145	76 1	40 105	120 87	2035 1065
%	61 39	96 4	76 24	94 6	100 0	40 60	99 1	28 72	96 2	37 63	79 21	99 1	28 72	58 42	66 34

DIG - DIAGNOSABLE , UND - UNDIAGNOSABLE DUE TO INADEQUATE DETAILS

TABLE NO. 39  
ILLNESS PROFILE IN CHW RECORDS

	MALARIA	COLD	BACILLARY DYSENTERY	WORMS	AMOEBIAC DESYNTERY	HEADACHE	FLU	ACID PEPTIC D.	FRESH WOUNDS	SORE THROAT	BRONCHITIS	ALLERGY	SCABIES	NIGHT-BLINDNESS	MENTAL ILLNESS	BODYACHE	INFECTED WOUND	OTHERS	MIGRAINE	DIAR-RHOEA	UNDIAG: NOSED	OTHER	TOTAL
TOTAL	443	437	250	195	152	142	80	61	60	44	41	33	32	26	24	23	23	22	17	17	792	186	3100
%	14.2	14.0	8.0	6.2	4.9	4.5	2.5	1.9	1.9	1.4	1.2	1.0	1.0	0.8	0.7	0.7	0.7	0.7	0.5	0.5	25.5	6.0	100
* MIL : MENTAL STRESS IS CLASSIFIED HERE AS MENTAL ILLNESS.																							

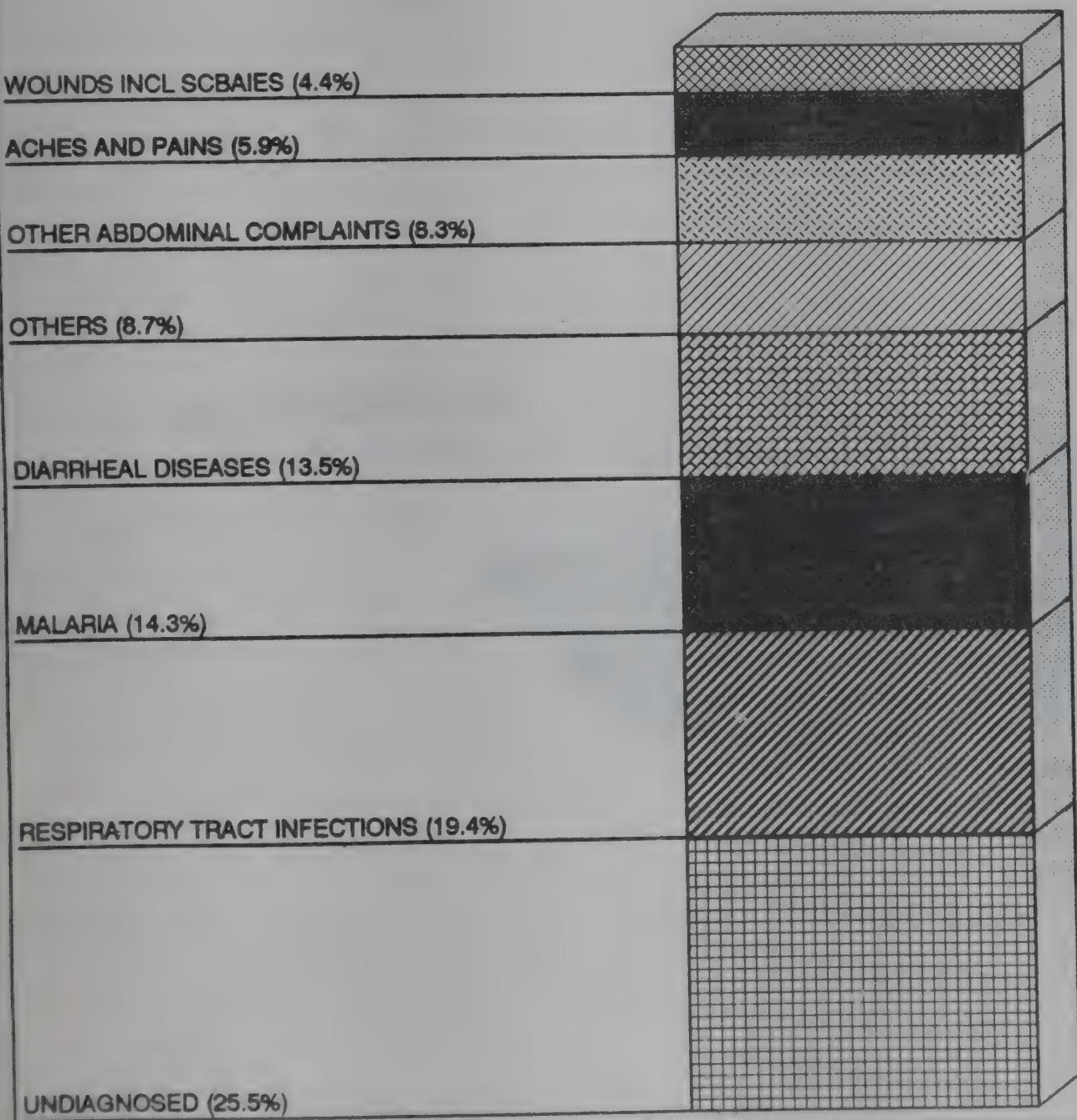


**TABLE 40 : EVALUATION OF QUALITY OF DIAGNOSIS BY CHWS**

CRITERION	WRONG	TANGIBLE	CORRECT	TOTAL
1 DIAGNOSIS	832	492	1776	3100
%	26.8	15.9	57.3	100
2 TREATMENT	173	916	2011	3100
%	5.6	29.6	64.8	100

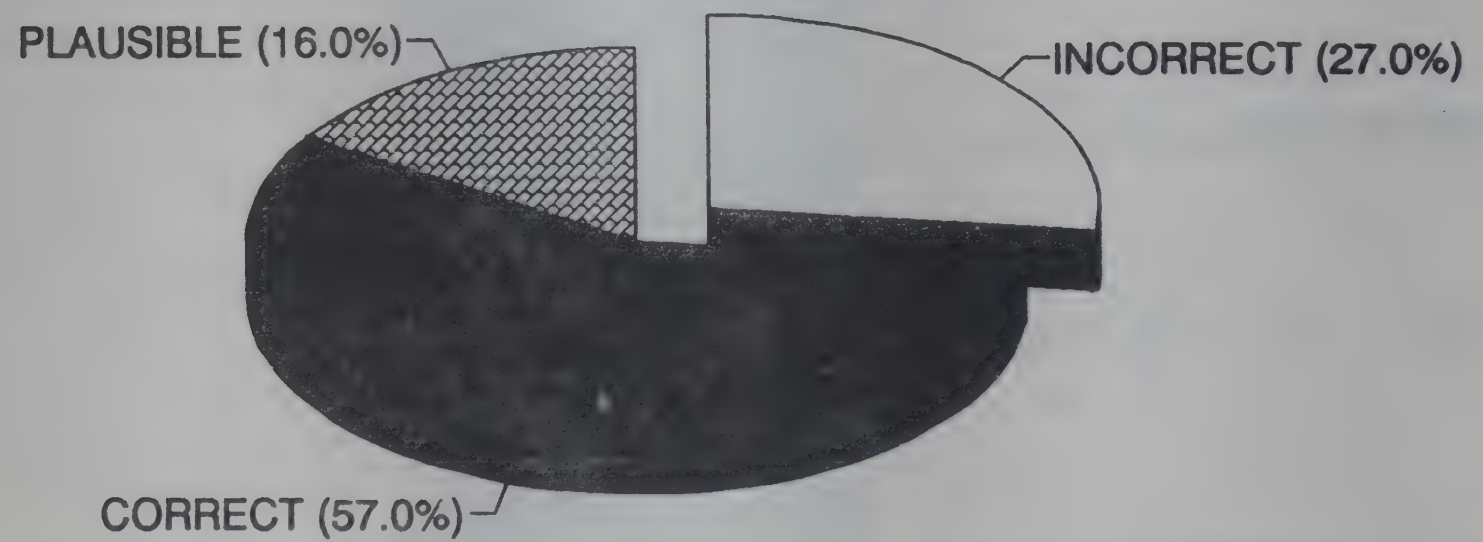
# ILLNESS PROFILE IN CHW RECORDS

## PERCENTAGES

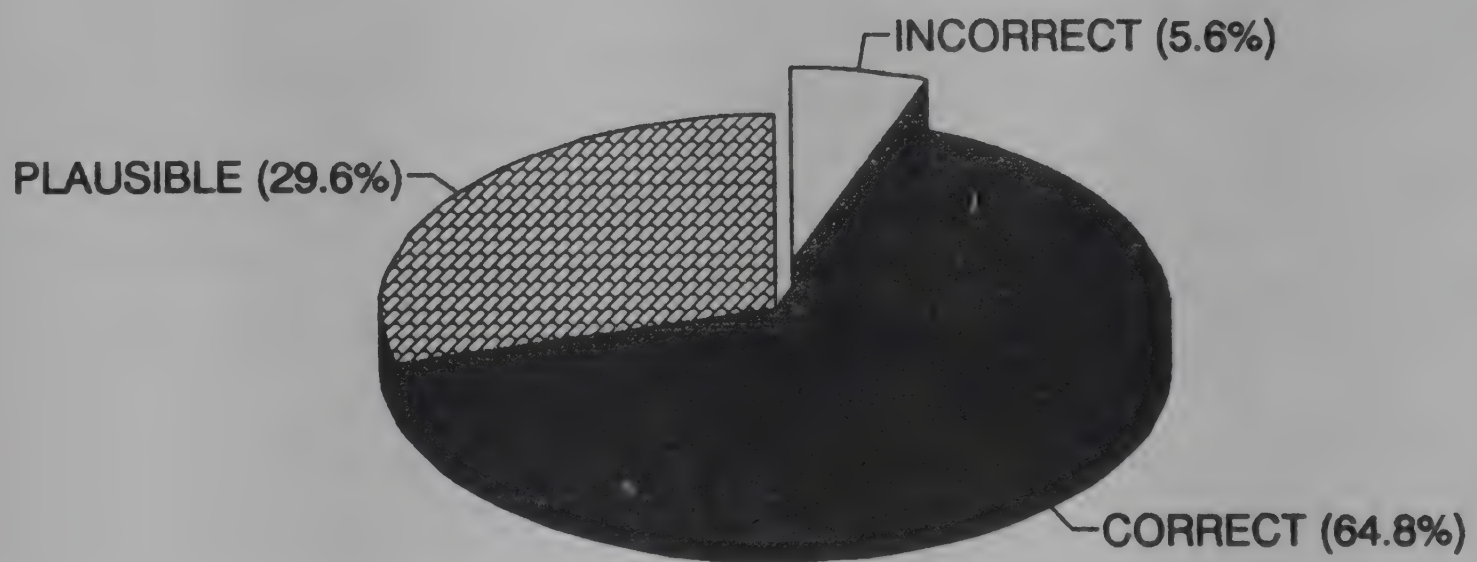




## EVALUATION OF QUALITY OF DIAGNOSIS BY CHWS



EVALUATION OF QUALITY OF TREATMENT  
BY CHWS







loose motions, abdominal pain and cough are the commonest problems for using the aids. Diagnostics being a major hurdle, some projects have used instead, standing orders that combine both diagnostics and management of the sickness, one such programme is reported in a Nigerian study (Ekunwe 1984).

It must be mentioned here that there are some other means of injecting a diagnostic approach in FCC with respect to specific health problems. Thus the programme on ARI (Acute respiratory infections in children) banks on certain well honed criteria. Similar programmes can and should be developed for important priorities.

About the proportion of certain symptoms appearing in the first place (presenting symptom) there appears to be a tendency with some symptoms to be reported first of all. Thus abdominal pain and fever with rigors seem to be 'overriding' ones. Loose motions, coughs and other fevers are reported somewhat less in the first spot and therefore may need some degree of probing on the part of CHWs.

## 2.5 ILLNESS PROFILE IN THE CHW RECORDS

Table 39 M offers an overview of illnesses in the records of the CHWs. Malaria tops the morbidity list, with cold, bacillary dysentery (blood and mucous type), worms and amoebic dysentery following. Acid peptic disease comprises nearly 2 percent of the entries, which is sizable for a chronic illness.

An important observation regarding the CHW records is the negligible presence of health problems like tuberculosis, ear infections, gynecological disorders, sexually transmitted diseases or similar hard core problems that demand more involvement from the health programme. Perhaps a much wider records base would be needed to bring out the facts on this.

Illness records such as these one are plagued by many sources of bias. First of all, not all of the sickness

episodes are reported to the CHW. This study puts the sickness load reported by the patients to CHWs at about 40% of the total sickness in the community. (See Part II). There could also be an observer bias of putting a certain diagnosis more often than others. Seasonality is another source of bias. The fact that this pattern more or less matches with the 'pooled lists' of illnesses by CHWs (with the exception of pneumonia topping the list) in Table No. 6 is no wonder, since daily encounters go into the making of 'mental lists'. However this serves to make a point that qualitative methods used in this study match quite well with actual hard data from records of CHWs.

What is the use of morbidity profiles to CHW programmes? Planning drug stocks / purchases is one use. Deciding training needs and priorities is perhaps a more important point. This said, it automatically follows that such exercises have to be fairly decentralized.

## 2.6 TREATMENT OFFERED BY CHWS

Table No.40 and 40M2 present an evaluation of the treatment decisions (choice of drugs) made by CHWs as seen from the treatment Records. In the light of criteria judging the treatment described above, correct treatment was noticed in about 64.8% of entries. About 29.6% decisions are 'tangible' (plausible) which includes incomplete treatment, for instance giving only chloroquine and no paracetamol in malaria or choosing a less appropriate drug, like treating childhood diarrhea with furazolidine instead of ORS. About 5.6% entries recorded incorrect treatment. The possibility of some drugs not being available with the CHW must be kept in mind while analyzing treatment records, since some pill 'has to be given' anyway to satisfy the sick in the situation. It seems that this is a reasonably good quality work at the level of CHWs.

Also, we did not analyze treatment records in the light of the type of drug kit (see Table No.3) provided to the CHW.



## PART IV

### SUMMING UP

First contact care (FCC) is an important concept in community health services in both urban and rural contexts. There can be no progress in the Primary Health Care programme unless we commit ourselves to develop a reasonable component of FCC. The national effort of building up a CHW programme for realizing FCC for villages has now been almost shelved. Yet the issue of FCC remains, and any variant of health workers, both in the state and voluntary sectors, has to grapple with the issue of FCC. A comparison of FCC workers in various developing countries is presented in Annexure 7 (WHO 1987). This should help us put our own programmes in proper perspective.

Vachan, as an NGO, has been involved in rural health care, even if for a small population. Vachan realized that FCC needs to be outlined in some detail and this was one reason why this study was undertaken.

The next important reason for this study was to explore the strengths and weaknesses of the means that needed to be employed for realizing FCC. In Vachan, the rural health programme banks upon CHWs. Therefore, we wanted to study the CHWs in some depth, especially their knowledge, skills and attitudes that related to health care.

These were the two broad issues before us while we undertook this study. Since there was very little material to help us in this exercise, we had to develop our own framework and testing material. We hope that the framework developed here will be of some help to other projects of similar nature.

What follows is a brief summary of where we arrived at in this study and also the questions that we feel are pertinent.

#### 1 FRAMEWORK FOR FCC

We have developed one possible framework for outlining and detailing FCC in the form of the KAS sheet (Knowledge, Attitudes/beliefs and Skills). This framework, with relevant changes depending upon local needs, should help in the preparation of syllabi for training first line health workers. We are searching through literature on the subject of CHWs to find out if a similar study has been conducted elsewhere. We are aware of the limitations of the framework developed here and thus it is open to amendments.

#### 2 MORBIDITY PROFILE BY INDIRECT METHODS

The exercise of preparing morbidity profiles of the community, by pooling the ratings of CHWs has helped us in outlining FCC and avoiding unnecessary details. The profiles prepared by this method match reasonably well with actual profiles emerging from the study of records of CHWs. In the absence of systematic morbidity surveys, we feel that this method should help small health projects in deciding needs and priorities provided it is monitored by the project coordinators. This should also help guide training programmes.

#### 3 MULTIPLE CHOICE QUESTIONS

Knowledge tests, perhaps never before used in Indian CHW programmes, with a sound basis in the form of FCC outlined in KAS sheet, have been an important outcome of this study. MCQ tests are a good means of knowledge assessment as is seen from the high correlation between test scores in the two tests. Apart from their use as test programmes, MCQs are a ready material for critical learning.



## 4 SKILLS

Systematic skills training should be a part of any health worker training programme. Listing, classifying and detailing of essential skills has been done in this study, in order to enable us to test the CHWs. This again is open ended.

## 5 ATTITUDE TESTING

Attitudes/beliefs are perhaps the most neglected part of training health workers, at least in India. Despite its limitations, the attitude gauging exercise done in this study helped us to realize how CHWs think about many health related issues. It is a noteworthy point that Vachan's CHWs do not feel inferior to 'rural doctors' in most respects except the advantage the latter have by virtue of injections. Besides this, there are a number of attitude-areas identified that can be the basis of specific actions in the form of training, supervision etc..

## 6 COMMUNITY OPINION

The study of community opinion about CHW services has following salient features :-

- The community in Vachan villages banks on CHWs more than on rural doctors and believe that CHWs can cure some illnesses.
- The list of illnesses treated by CHWs is almost the same as that of rural doctors, but the level of severity of illnesses may not be the same.
- The community continues to retain a penchant for injections.
- Bhagats play a very specific and exclusive role in village health care and neither doctors nor CHWs can replace their need at this stage. It doubtlessly proves that the community is willing to give up less useful ways of health care when alternatives are provided.

## 7 RECORDS OF CLINICS

The records study has revealed a number of features

about the past work done by CHWs by way of treating illnesses. The revelations are :

- The average number of patients attended by CHWs every day is just about 1.4, which is likely to affect the quality of the services of CHWs in the long run. It also implies poor utilization, whatever the constraints. Correcting this is a long term affair.
- About 65 % of the first symptoms (complaints for which people seek cures) demand some diagnostic understanding, the remaining being easily recognized conditions.
- CHWs poorly diagnose fevers, coughs and abdominal pains.
- Conditions such as tuberculosis, pneumonia, gynecological problems, sexually transmitted diseases, chronic ear infections and the like have claimed a very small portion of the morbidity profile, which needs special drives and programmes. Much of the hidden morbidity remains untouched.

## 8 LIMITATIONS

A major limitation of this study is that it does not survey the entire area of long term health impacts of the programme in the form of mortality and specific morbidity indicators. Besides resource constraints, there are some theoretical problems with mortality studies in small samples such as this one. On the other hand, lack of a referral center in Vachan's programme renders it difficult to conduct studies about morbidities that must be monitored.

We have not been able to include control element in this study and this has rendered some of the conclusions rather 'hanging'. For instance we do not know the rates of utilization services of various healers including possible substitutes of CHWs (like government paramedicals including nurses). Is any healer based in the village utilized at the same rates observed for Vachan CHWs? In other words what is the edge that Vachan CHWs have over other healers in the non project villages? A control element could have thrown some light on this issue.



## 9 STEPPING UP THE VACHAN HEALTH PROGRAMME

If a step up effort is planned for the Vachan CHW programme, what are the possible areas that emerge from this study? Briefly these are as indicated below

- Despite the obvious constraints of small village sizes, it is necessary to make efforts to increase the patient attendance by CHWs. More training and drugs (for some CHWs), equipment, skills, minimum clinic set up are a few inputs to be considered.
- Opening up of a special programme of 'critical morbidity care' for conditions like tuberculosis (all ages), acid peptic disease, rheumatic fever and hypertension (screening), ear infections, gynecological illnesses, pregnancy related illnesses, anemia, dental problems and psychiatric illnesses, to mention just a few important ones.
- Training some CHWs to take up advanced care for conditions listed above, perhaps as mobile CHWs helping other CHWs with less training and skills. Using a stethoscope and even select injections (like Tetanus Toxoid) may be included.
- Starting periodic referral clinics and special camps, if not a center immediately, is necessary to provide some clinical support to the CHW services.

- Introducing an element of herbal remedies in village health care; for reasons both internal and external to medicine.

- Health education campaigns about injectables, saline infusions, hand wash after defecation and some other topics identified by the programme.

- Linkages with government paramedicals on use of spacing options by the community.

- Changes in illness recording pattern to facilitate compiling and analysis.

## 10 CONCLUDING REMARK

To conclude, a meaningful FCC, which is a critical pre-requisite of national health care, is a real possibility even through a CHW programme, provided the needs, tasks and problems are adequately met. What we have done in this study is an exploration of some of the critical issues involved in the context of one such programme. Though, it is not possible to conclude definitively that the programme has actualized this possibility, there are indications to show that the potential of the CHW to be able to provide FCC exists in reality. Also, Vachan's CHWs, even if only a small number of them, have moved down the path of realizing this potential.

# **SECTION III**

**PART I - TABLES**

**PART II - ANNEXURES**

**PART III - REFERENCES**





**TABLE NO. 1 M : SOME FEATURES OF COMMUNITIES IN VACHAN VILLAGES**

NO.	VILLAGE	HOUSE- HOLDS (NO.)	MALE POPLN (NO.)	FEMALE POPLN (NO.)	TOTAL POPLN (NO.)	MALE LIT.%	FEMALE LIT.%	TOTAL LIT.%	SC POPLN	ST POPLN
1	TAKE HARSHA	266	712	690	1402	28.79	12.61	20.83	13.77	75.04
2	ZARWAD KH	125	371	358	729	21.02	5.03	13.17	11.25	88.75
3	DHADOSHI	55	156	176	332	15.38	9.09	12.05	0.00	100.00
4	KOJOLI	62	193	224	417	27.46	12.50	19.42	10.55	61.39
5	BHILMAL	74	380	237	617	50.00	22.78	39.55	0.16	97.73
6	PAHINE	160	465	469	934	20.43	2.15	12.74	19.06	79.98
7	KHAROLI	124	363	357	720	29.75	9.52	19.72	7.50	54.72
8	SAMUNDI	92	257	241	498	59.57	12.45	21.29	1.61	95.58
9	ASWALIHARSHA	125	337	327	664	16.62	5.81	11.30	2.56	93.67
10	AWHATE	120	338	340	678	22.19	7.65	14.90	28.02	71.98
11	MET CHANDRACHI	86	248	262	510	30.24	11.45	20.59	7.65	92.35
12	MET HUMBHACHI	104	246	271	517	17.89	4.06	10.64	0.39	95.94
13	DEOGAON	302	1001	904	1905	33.07	13.16	23.62	5.35	87.66
14	ALWAND	147	443	425	868	58.92	23.53	41.59	18.32	66.01
15	DAPURE	86	196	218	414	8.16	2.75	5.31	7.97	90.82
16	ZARWAD BK	95	258	232	490	36.82	9.48	23.88	21.43	68.37
17	VAVIHARSHA	181	472	508	980	34.75	10.04	21.94	8.27	80.51
18	TAKE DEOGAON	269	793	868	1661	20.68	5.65	12.82	4.64	90.67
19	MET YELYACHI	61	189	176	365	27.51	14.77	21.37	0.00	100.00
20	DHARGAON	361	1102	1017	2119	44.37	25.27	35.21	6.51	68.66
TOTAL		2895	8520	8300	16820*					
AVERAGE						31.12	12.13	21.75	8.94	81.17
(CENSUS 1991)      SC : Scheduled Caste      ST : Scheduled Caste * : The health program covers only 10,305 population										



TABLE NO. 2 M : PROFILE OF COMMUNITY HEALTH WORKERS IN VACHAN PROJECT

SR. NO.	NAME OF THE CHW	AGE	SEX	VILLAGE LOCATION / WADI	POP. COVERED	FORMAL EDUC.	WORKING SINCE
1	HARIBHAU TULSIRAM AMBAPURE	30	M	PAHINE GAOTHAN		4TH	1989
2	KAHIRAM DEORAM WARGHADE	25	M	UMBARMALA DAGADMALA CHIKHAL WADI BHOKAR WADI LAXMANPADA JAWAI WADI GHARTYACHI WADI	720	10TH	1989
3	VISHNU RAMA KHADE	32	M	DHADOSHI GAOTHAN ZOLE WADI SARPADEWACHI WADI KHADYACHI WADI	245	3RD	1989
4	BHIKA BHIWA KADALI	35	M	VIJPADA PULACHI WADI TALYACHI WADI	470	2ND	1990
5	KASHINATH SANU SHENDE	27	M	DAPURE GAOTHAN PULACHI WADI TALYACHI WADI	253	6TH	1990
6	HIRABAI MIHASLE	26	F	DAHLE WADI	527	3RD	1990
7	BHAU YESHWANT CHANDRE	25	M	CHANDRACHI MET	548	7TH	1990
8	RATAN CHANDAR DEHADE	21	M	HADACHI WADI DEWACHI WADI KHADKHADI GIRAN WADI	267	8TH	1989
9	SONU SOMA WARE	21	M	NIMUN WADI DHOLE WADI GIRAN WADI	267		
10	SHANTILAL KISAN BODHARE	18	M	HUMBACHI MET	258	8TH	1991
11	VESHNU SOMA SHID	17	M	DUGAR WADI	142	3RD	1990
12	SONU THAMA PARDHI	25	M	BARDYACHI WADI	268	4TH	1989
13	TRIMBAK SAKHARAM PADEKAR	32	M	YELYACHI MET	402	8TH	1989
14	SHEWANTABAI BHAU ZOLE	27	F	SARAL WADI HARICHI WADI GAL WADI TILVIHIR	234	3RD	1989
15	PUNAJI KAHINDVI	26	M	DHARECHI WADI	167	9TH	1989
16	SHIVRAM BHAGAT	24	M	TORAN WADI DONGAR WADI JAMBHUL WADI	105	9TH	1989
17	YEMUNABAI GANGA WARE	30	F	RAIPADA	219	3RD	1989
18	KALU DHAPTE	19	M	DHARACHI WADI DHUBACHI WADI KORAL WADI KUDAL WADI NAKAD WADI ADACHI WADI WADACHI WADI		9TH	1990
19	MANGA KASHIRAM BHASME	42	M	WAGHIYACHI WADI HATTICHI WADI NIMUN WADI BHORPADA DUNDACHI WADI DHAVLYAMALACHAPADA	315	3RD	1989
20	BHAGCHAND LAHU MERANDE	22	M	PATIL WADI (AWHATE)	422	8TH	1990
21	MANGAL JAGAN DEHADE	17	F	BARDYACHI WADI	103	5TH	1991
22	LILABAI CHANDAR WAGH	21	F	SHREE GHAT 1,2,3	233	7TH	1991
23	MANDABAI KALU GARE	22	F	SAMUNDI	184	8TH	1991
24	ANJALI HEMANT THAKUR	24	F	ASWALI HARSII	418	10TH	1991
25	USHA VISHWAS GANGURDE	22	F	ZARWAD BUDRUK	467	6TH	1991
26	KANTILAL NAWSU JADHAV	24	M	AWATHE	521	5TH	1991
27	BAJABAI NAMDEV THONGE	23	F	DEOGAON GAOTHAN	188	7TH	1991
28	SHIVRAM GANGARAM PARDHI	21	M	NIRGUDPADA KOTTAM WADI	442	9TH	1991
29	DAGDU KERU RAHATE	30	M	HATTIPADA	340	9TH	1991
30	KOUSALYA PANDURANG KORDE	18	F	ZARWAD KHURD	774	7TH	1991
31	GULAB RAJARAM BENDKOLI	21	F	KOJULI	300	8TH	1991
	TOTAL		M = 20 F = 11		10305		
	AVERAGE	25			322		

TABLE NO. 4 M : OPINION ON SEVERITY AND PREVALENCE OF ILLNESSES : RATINGS BY DOCTORS AND CHWS

NO.	CLASS	ILLNESS	SEVERITY			PREVALENCE		
			DOCTOR	CHW (MODE)	AGREE- MENT	DOCTOR	CHW (MODE)	AGREE- MENT
1	FEVERS	FLU	S	S	YES	H	H	YES
2		SORE THROAT	B	B	YES	H	L	NO
3		TONSILLITIS	B	B	YES	H	L	NO
4		BRONCHITIS	B	G	NO	H	L	NO
5		PNEUMONIA	G	G	YES	H	L	NO
6		LUNG T B	G	G	YES	L	L	YES
7		INFECTIVE JAUNDICE	G	B	NO	L	L	YES
8		TYPHOID	G	G	YES	L	L	YES
9		DYSENTERY	G	G	YES	H	L	NO
10		PUERPERAL FEVER	G	G	YES	L	L	YES
11		SKIN INFECTION	B	S	NO	H	H	YES
12		ABSCESS	B	B	YES	H	L	NO
13		MENINGITIS	G	G	YES	L	L	YES
14		ENCEPHALITIS (BRAIN FEVER)	G	G	YES	L	L	YES
15		URINARY INFECTION	B	G	NO	H	L	NO
16		MALARIA	G	B	NO	H	H	YES
17		FILARIASIS	B	G	NO	L	L	YES
18		HEAT STROKE	G	G	YES	L	L	YES
19		DIPHTHERIA	-	G	NO	-	A	NO
20	SKIN DISEASE	LEPROSY	B	G	NO	L	L	YES
21		BOILS	B	B	YES	H	H	YES
22		INFECTED WOUNDS	B	S	NO	H	H	YES
23		LICE	S	S	YES	H	A	NO
24		SCABIES	S	S	YES	L	H	NO
25		CHIKHALYA(FUNGAL DISEASE OF FEET)	S	S	YES	H	H	YES
26		RINGWORM	S	S	YES	H	L	NO
27		THORNS	B	S	NO	H	H	YES
28		CORNS	B	S	NO	H	H	YES
29		ECZEMA	B	S	NO	L	L	YES
30		ALLERGY	B	S	NO	L	H	NO
31		UNDIAGNOSED PATCH(LEPROSY)	B	B	YES	L	L	YES
32		SKIN TUMORS	S	S	YES	L	L	YES
33		HERPES	B	G	NO	L	L	YES
34		GUNEA WORM	-	G	NO	-	A	NO
35		ERUPTION OF SKIN	-	G	NO	-	A	NO
36	DIARR / DYSENTERY	GASTROENTERITIS	G	G	YES	H	H	YES
37		CHOLERA	G	G	YES	H	H	YES
38		FOOD POISONING	G	G	YES	L	L	YES
39		BACTERIAL DYSENTERY	G	B	NO	H	H	YES
40		AMOEBIC DYSENTERY	B	B	YES	H	H	YES
41		GIARDIA DYSENTERY	B	B	YES	H	H	YES
42		WORMS DIARRHOEA	B	B	YES	H	H	YES
43		INDIGESTION	S	S	YES	L	L	YES
44		OTHERS	B	B	YES	L	H	NO
45	OTHER ABDOMINAL	GASTRITIS/PEPTIC/DUODENAL ULCER	G	G	YES	H	L	NO
46		ACUTE ABDOMINAL CONDITION	G	G	YES	H	L	NO
47		INTESTINAL OBSTRUCTION	G	G	YES	L	L	YES
48		ASCITIS	G	G	YES	L	L	YES
49		WORMS INFESTATION	G	G	YES	L	H	NO
50		INFECTIVE JAUNDICE	G	G	YES	L	L	YES
51		AMOEBIASIS	B	G	NO	H	L	NO
52		CONSTIPATION	B	S	NO	H	L	NO
53		GASES	S	S	YES	L	L	YES
54		PILES	B	B	YES	H	L	NO
55		FISSURES	B	B	YES	L	L	YES
56		TUMOURS/CANCER	G	G	YES	L	L	YES

S = SIMPLE, B = BAD, G = GRAVE, L = LOW, M = MEDIUM, H = HIGH

CONTD...



TABLE NO. 4 M : OPINION ON SEVERITY AND PREVALENCE OF ILLNESSES : RATINGS BY  
DOCTORS AND CHWS

NO.	CLASS	ILLNESS	SEVERITY			PREVALENCE		
			DOCTOR	CHW (MODE)	AGREE- MENT	DOCTOR	CHW (MODE)	AGREE- MENT
57	COUGHS	SPLEEN ENLARGEMENT	B	G	NO	H	L	NO
58		BILE STONES	G	G	YES	L	L	YES
59		HERNIA	B	G	NO	L	L	YES
60		LOSS OF APPETITE	B	B	YES	L	L	YES
61		PERITONITIS	G	G	YES	L	L	YES
62		PAIN IN ABDOMEN	-	G	NO	-	A	NO
63		NAUSEA/VOMITING	-	G	NO	-	A	NO
64		URTI	B	B	YES	A	H	NO
65		ACUTE BRONCHITIS	B	G	NO	H	L	NO
66		CHRONIC BRONCHITIS	B	G	NO	H	L	NO
67	OTHER RESPIRATORY	ASTHMATIC COUGH	B	G	NO	L	L	YES
68		LUNG T B	G	G	YES	L	L	YES
69		PNEUMONIA	G	G	YES	H	L	NO
70		CANCERS	G	G	YES	L	L	YES
71		WORMS	B	G	NO	H	L	NO
72		COLD	S	S	YES	H	L	NO
73		NOSEBLEED	B	S	NO	L	L	YES
74		SINUSITIS	B	S	NO	H	H	YES
75		SORE THROAT	B	B	YES	H	L	NO
76		TONSIL/ADENOIDITIS SWELLING	B	G	NO	H	L	NO
77	EYE	FOREIGN BODY	G	G	YES	L	L	YES
78		ASTHMA	B	G	NO	L	L	YES
79		PRIMARY COMPLEX(CHILDHOOD T B)	G	G	YES	H	L	NO
80		PLEURISY	G	G	YES	L	L	YES
81		FRACTURE RIB	B	G	NO	L	L	YES
82		SPRAIN	S	B	NO	H	L	NO
83		CARDITIS(HEART FEVER)	G	G	YES	L	L	YES
84		ANGINA OF HEART	G	G	YES	L	L	YES
85		HIGH BLOOD PRESSURE	G	G	YES	H	L	NO
86		STYE	B	S	NO	L	H	NO
87	EAR	WEEPING EYE(DACRYOCYSTITIS)	B	B	YES	H	L	NO
88		CONJUNCTIVITIS(SORE EYES)	B	B	YES	H	L	NO
89		FOREIGN BODY	B	G	NO	L	H	NO
90		PTERYGIUM(FLAP ON CORNEA)	B	G	NO	H	L	NO
91		CATARACT	B	G	NO	H	L	NO
92		SHORTSIGHTEDNESS	B	G	NO	H	L	NO
93		LONGSIGHTEDNESS	B	G	NO	H	L	NO
94		IMPAIRED VISION	B	G	NO	L	L	YES
95		ULCER ON CORNEA	B	G	NO	L	L	YES
96		SCAR ON CORNEA	B	G	NO	L	L	YES
97	TEETH AND MOUTH	STRABISMUS(SQUINT)	B	B	YES	L	L	YES
98		BLINDNESS	B	G	NO	L	L	YES
99		NIGHTBLINDNESS	B	G	NO	L	H	NO
100		GLAUCOMA	-	G	NO	-	A	NO
101		EXTERNAL EAR INFECTION	B	B	YES	L	L	YES
102		FUNGAL INFECTION	B	G	NO	L	L	YES
103		WAX IN EAR	B	S	NO	H	L	NO
104		FOREIGN BODY IN EAR	B	B	YES	L	H	NO
105		INJURIES	B	G	NO	L	L	YES
106		EARACHE	B	G	NO	H	H	YES
107		ACUTE MIDDLE EAR INFECTION	B	G	NO	H	H	YES
108		CHRONIC MIDDLE EAR INFECTION	B	G	NO	H	L	NO
109		HEARING LOSS	B	G	NO	H	L	NO
110		TINNITUS(RINGING IN EARS)	B	B	YES	L	L	YES
111		TEETHING PROBLEM	S	B	NO	H	H	YES
112		CARIES	B	B	YES	H	H	YES
113		LOSS OF TEETH	B	S	NO	H	H	YES

S = SIMPLE, B = BAD, G = GRAVE, L = LOW, M = MEDIUM, H = HIGH

CONTD...

**TABLE NO. 4 M : OPINION ON SEVERITY AND PREVALENCE OF ILLNESSES : RATINGS BY DOCTORS AND CHWS**

NO.	CLASS	ILLNESS	SEVERITY			PREVALENCE		
			DOCTOR	CHW (MODE)	AGREE- MENT	DOCTOR	CHW (MODE)	AGREE- MENT
114	NECK	TOOTHACHE	B	B	YES	H	H	YES
115		TARTAR - SCALY TEETH	B	B	YES	H	H	YES
116		GINGIVITIS	B	B	YES	H	H	YES
117		GLOSSITIS/STOMATITIS	S	S	YES	H	H	YES
118		ORAL CANCER	G	G	YES	L	L	YES
119		TB LYMPHADENITIS(NECK GLAND T B)	B	G	NO	L	L	YES
120		CERV. LYMPHADENITIS	B	B	YES	H	L	NO
121		FRACTURE COLLAR BONE	B	G	NO	L	L	YES
122		GOITRE	B	B	YES	L	L	YES
123		PAIN IN NECK	B	B	YES	L	H	NO
124	HAND AND FEET	OEDEMA SWELLING - ONE FOOT	B	B	YES	L	L	YES
125		OEDEMA - BOTH FEET	G	G	YES	L	L	YES
126		SKIN INFECTION	B	B	YES	H	H	YES
127		WOUNDS	B	B	YES	H	A	NO
128		PARALYSIS	G	G	YES	L	L	YES
129		FRACTURES	B	G	NO	L	L	YES
130		ARTHRITIS	B	B	YES	H	H	YES
131		LEPROMATOUS DEFORMITIES	B	G	NO	L	L	YES
132		VARICOSE VEINS	B	G	NO	L	L	YES
133		SWEATING OF PALMS / SOLES	S	B	NO	L	L	YES
134	LYMPH NODES	SCIATICA	B	B	YES	L	L	YES
135		PLANTAR FISSURE	B	S	NO	H	H	YES
136		OSTEOMYELITIS	B	G	NO	L	L	YES
137		INGUINAL LYMPHADENITIS	B	B	YES	H	H	YES
138		ARMPIT LYMPHADENITIS	B	B	YES	L	H	NO
139		NECK LYMPHADENITIS	B	G	NO	H	L	NO
140	URINARY TRACT	BURNING MICTURITION	B	S	NO	H	H	YES
141		FREQUENT MICTURITION	B	S	NO	L	H	NO
142		DIABETES	G	G	YES	L	L	YES
143		URINARY OBSTRUCTION : CHILDREN	B	G	NO	L	L	YES
144		URINARY OBSTRUCTION : WOMEN	B	G	NO	L	L	YES
145		URINARY OBSTRUCTION : YOUNG MEN	B	G	NO	L	L	YES
146		URINARY OBSTRUCTION : OLD MEN	B	G	NO	H	L	NO
147		RENAL COLICS(STONES)	B	G	NO	L	L	YES
148		BLOOD IN URINE	B	G	NO	L	L	YES
149		PUS IN URINE	B	G	NO	L	L	YES
150	MALE REP. TRACT	OLIGURIA/ANURIA : CHILDREN	G	G	YES	L	L	YES
151		OLIGURIA/ANURIA :OTHERS	G	G	YES	L	L	YES
152		BLACK URINE	G	G	YES	L	L	YES
153		PENILE INFECTION	B	G	NO	H	L	NO
154		PENILE TUMOURS	B	G	NO	L	L	YES
155		CHANCRE / ERUPTION(STD)	B	B	YES	L	L	YES
156		PAIN TESTES	G	G	YES	L	L	YES
157		ORCHITIS/HYDROCOELE	B	G	NO	L	L	YES
158		UNDESCENDED TESTES	B	G	NO	L	L	YES
159		SKIN INFECTION	S	S	YES	H	H	YES
160	FEMALE REP.TRACT	HERNIA	G	G	YES	L	L	YES
161		STERILITY	B	B	YES	L	L	YES
162		SEX PROBLEMS	B	B	YES		L	NO
163		VAGINITIS	B	G	NO	H	L	NO
164		WHITE DISCHARGE	B	B	YES	H	H	YES
165		DYSMENORRHEA(PAINFUL MENSES)	B	B	YES	H	H	YES
166		OLIGOMENORRHEA/MENORRHAGIA	B	G	NO	L	L	YES
167		INTERMENSTRUAL BLEEDING	G	G	YES	L	L	YES
168		PAINFUL INTERCOURSE	B	B	YES	H	L	NO
169	FEMALE REP.TRACT	PELVIC LOWER ABDOMINAL PAIN	B	G	NO	H	L	NO
170		PELVIC LUMP	G	G	YES	L	L	YES

S = SIMPLE, B = BAD, G = GRAVE, L = LOW, M = MEDIUM, H = HIGH

CONTD..



TABLE NO. 4 M : OPINION ON SEVERITY AND PREVALENCE OF ILLNESSES : RATINGS BY DOCTORS AND CHWS

NO.	CLASS	ILLNESS	SEVERITY			PREVALENCE		
			DOCTOR	CHW (MODE)	AGREE- MENT	DOCTOR	CHW (MODE)	AGREE- MENT
171	BRAIN	PROLAPSE UTERUS	G	G	YES	L	L	YES
172		ULCERS IN VAGINA	B	G	NO	L	L	YES
173		VAGINAL TUMORS/CANCERS	G	G	YES	L	L	YES
174		PREGNANCY DISORDERS		G	NO		L	NO
175		VOMITING	B	G	NO	L	L	YES
176		OEDEMA	G	B	NO	L	L	YES
177		BLEEDING	G	G	YES	L	L	YES
178		ABORTION	G	G	YES	L	L	YES
179		PREMATURE DELIVERY	G	G	YES	L	L	YES
180		ANEMIA	G	G	YES	L	L	YES
181		BREAST ABSCESS	B	G	NO	L	L	YES
182		BREAST CANCER	G	G	YES	L	L	YES
183		STERILITY	B	G	NO	L	L	YES
184		VAGINAL INJURIES	B	G	NO	L	L	YES
185		SEX PROBLEMS	B	G	NO	L	L	YES
186		MENSTRUAL DISORDERS		G	NO		A	NO
187		MENTAL RETARDATION	B	G	NO	L	L	YES
188		EPILEPSY	G	G	YES	L	L	YES
189		HYDROCEPHALUS	G	G	YES	L	L	YES
190		PARALYSIS	B	G	NO	L	L	YES
191		HEMIPLEGIA(PARALYSIS OF HALF BODY)	G	G	YES	L	L	YES
192		MENINGITIS	G	G	YES	L	L	YES
193		ENCEPHALITIS(BRAIN FEVER)	G	G	YES	L	L	YES
194		BRAIN TUMORS	G	G	YES	L	L	YES
195		RABIES(HYDROPHOBIA)	G	G	YES	L	L	YES
196		POLIOMYELITIS	G	G	YES	L	L	YES
197		ALCOHOLIC DISORDERS	G	G	YES	L	L	YES
198		ALCOHOLIC NEURITIS	G	G	YES	L	H	NO
199		LEPROMATOUS NEURITIS	B	G	NO	L	L	YES
200		SPONDYLITIC NEURITIS	B	G	NO	L	L	YES
201		TETANUS	G	G	YES	L	L	YES
202		BRAIN INJURIES	G	G	YES	L	L	YES
203	PSYCHIATRIC DISORDER	POSSESSION	B	B	YES	H	H	YES
204		'LOCKJAW'	B	G	NO	H	L	NO
205		SCHIZOPHRENIA	B	G	NO	L	L	YES
206	PEDIATRICS	SLEEPLESSNESS	B	B	YES	L	L	YES
207		CONGENITAL DISORDERS	B	G	NO	L	L	YES
208		FEVERS	B	G	NO	H	H	YES
209		DIARRHEA/VOMITING/DEHYDRATION	G	G	YES	H	H	YES
210		PNEUMONIA	G	G	YES	H	H	YES
211		CHILDHOOD ASTHMA	B	G	NO	L	L	YES
212		SORE THROAT / TONSILLITIS	B	B	YES	H	H	YES
213		TEETHING DIARRHEA	B	S	NO	H	H	YES
214		WHOOPING COUGH	G	G	YES	L	L	YES
215		MEASLES	G	G	YES	H	L	NO
216		CHICKEN POX	B	G	NO	L	L	YES
217		POLIO	G	G	YES	L	L	YES
218		GROWTH FAILURE	B	G	NO	H	L	NO
219		MUMPS	B	B	YES	L	L	YES
220		MALNUTRITION	B	G	NO	H	L	NO
221		MARASMUS	B	G	NO	H	L	NO
222		KWASHIORKAR	G	G	YES	L	L	YES
223		RICKETS	B	G	NO	L	L	YES
224		NIGHTBLINDNESS	B	B	YES	L	H	NO
225		SUDDEN STOPPAGE OF BREATH	S	G	NO	L	L	YES
226		BEDWETTING	S	B	NO	L	L	YES
227		CONVULSIONS	G	G	YES	L	L	YES

S = SIMPLE, B = BAD, G = GRAVE, L = LOW, M = MEDIUM, H = HIGH

CONTD...

**TABLE NO. 4 M : OPINION ON SEVERITY AND PREVALENCE OF ILLNESSES : RATINGS BY DOCTORS AND CHWS**

NO.	CLASS	ILLNESS	SEVERITY			PREVALENCE		
			DOCTOR	CHW (MODE)	AGREE- MENT	DOCTOR	CHW (MODE)	AGREE- MENT
228	BLOOD DISORDER EMERGENCIES	SOIL EATING	B	B	YES	H	H	YES
229		DEAF AND DUMB	B	G	NO	L	L	YES
230		BLEEDING TENDENCIES	G	G	YES	L	L	YES
231		ANEMIA	B	G	NO	H	L	NO
232		BURNS	B	G	NO	L	L	YES
233		DROWNING	G	G	YES	L	L	YES
234		DOGBITES	G	G	YES	L	L	YES
235		SNAKEBITES	G	G	YES	L	H	NO
236		SCORPIONBITES	B	B	YES	L	H	NO
237		POISONING	G	G	YES	L	L	YES
238	OTHERS	ANIMAL BITES	B	G	NO	L	L	YES
239		ELECTROCUTION	G	G	YES	L	L	YES
240		OTHER FARM ACCIDENTS	B	G	NO	L	L	YES
241		INSECT BITES	S	B	NO	L	L	YES
242		BODYACHE	S	S	YES	H	A	NO
243		HEADACHE	S	S	YES	H	A	NO
244		BACKACHE	B	S	NO	H	A	NO
245		MIGRAINE	S	S	YES	L	L	YES
246		WEAKNESS	B	B	YES	H	H	YES
247		GIDDINESS	B	G	NO	L	L	YES
248	INVALID UNCLASSIFIED	HEAT STROKE	G	G	YES	L	L	YES
249		PALPITATIONS	B	B	YES	L	L	YES
250		AIDS	G	G	YES	L	L	YES
251		CANCERS	-	G	NO	-	A	NO
252		PUO	-	G	NO	-	A	NO
253		COUGH	-	G	NO	-	A	NO
254		MUSCLE CATCH	-	G	NO	-	A	NO
255		(INVALID RESPONSES)	-	G	NO	-	A	NO
256		UNCLASSIFIED	-	G	NO	-	A	NO

NOTE : H = HIGH, L = LOW, A = AMPLE (VERY HIGH)

S = SIMPLE, B = BAD, G = GRAVE, L = LOW, M = MEDIUM, H = HIGH



TABLE NO. 5 M : POOLED LIST OF ILLNESSES : FREQUENCY OF MENTION BY 31 CHWS

NO. ILLNESS	FREQUENCY COUNT	NO. ILLNESS	FREQUENCY COUNT
01 PNEUMONIA	20	57 WEAKNESS	3
02 MALARIA	20	58 CARDITIS	3
03 DIARRHOEA/VOMITING/DEHYDRATION	19	59 UNCLASSIFIED	3
04 COLD	19	60 ALLERGY	3
05 COUGH	18	61 SHORTSIGHTEDNESS	3
06 PUO	17	62 FILARIASIS	2
07 SCABIES	16	63 CHOLERA	2
08 PAIN IN ABDOMEN	15	64 MALNUTRITION	2
09 INJURIES	14	65 DIPHTHERIA	2
10 DYSENTERY	13	66 GOITRE	2
11 HEADACHE	13	67 PUO	2
12 CONJUNCTIVITIS	13	68 BILE STONES	2
13 JAUNDICE	13	69 SKIN INFECTION : BOILS	2
14 GASTRITIS/PEPTIC/DUODENAL ULCER	12	70 EPILEPSY	2
15 LEUCORRHOEA	11	71 PILES	2
16 LEPROSY	9	72 SORE THROAT/TONSILLITIS	2
17 WORMS INFESTATION	9	73 -RICKETS	2
18 LUNG T B	9	74 GLAUCOMA	2
19 NIGHTBLINDNESS	9	75 AMOEBIASIS	1
20 MENSTRUAL DISORDERS	8	76 TONSIL/ADENOIDITIS	1
21 NAUSEA/VOMITING	8	77 CORNS	1
22 ASOM - PUS IN EAR	7	78 ORAL CANCER	1
23 TOOTHACHE	7	79 OLIGOMENORRHEA/MENORRHAGIA	1
24 GINGIVITIS	7	80 ASCITIS	1
25 GLOSSITIS/STOMATITIS	7	81 INTESTINAL OBSTRUCTION	1
26 ACUTE ABDOMEN	7	82 GASTROENTERITIS	1
27 FLU	7	83 URINARY INFECTION	1
28 BURNS	7	84 ENCEPHALITIS	1
29 RINGWORM	7	85 (INVALID RESPONSES)	1
30 BODYACHE	6	86 LOSS OF HEARING	1
31 MIGRAINE	6	87 TONSILLITIS	1
32 BURNING MICTURITION	5	88 BRONCHITIS	1
33 RENAL COLICS	5	89 SINUSITIS	1
34 SORE THROAT	5	90 POLIO	1
35 TETANUS	5	91 ECZEMA	1
36 ABSCESES	5	92 BRAIN TUMOURS	1
37 ASTHMA	5	93 INSECT BITES	1
38 CANCERS	5	94 PLEURISY	1
39 TYPHOID	4	95 PURPEREAL FEVER	1
40 CHICKEN POX	4	96 ERUPTION	1
41 WORMS DIARRHEA	4	97 RABIES	1
42 CHIKHALYA	4	98 GIDDINESS	1
43 WHOOPING COUGH	4	99 PUS IN URINE	1
44 MEASLES	4	100 INFECTED WOUNDS	1
45 ANEMIA	4	101 STRABISMUS - SQUINT	1
46 SNAKEBITES	4	102 BLINDNESS	1
47 SCORPIONBITES	4	103 MUSCLE CATCH	1
48 BACKACHE	4	104 CONSTIPATION	1
49 GUINEAWORM	4	105 ELECTROCUTION	1
50 EARACHE	3	106 FISSURES ON FOOT	1
51 FOD POISONING	3	107 SPRAIN	1
52 INDIGESTION	3	108 FRACTURES	1
53 ARTHRITIS	3	109 ANGINA	1
54 LICE	3	110 MENINGITIS	1
55 MUMPS	3	111 -BLEEDING ANYWHERE	1
56 WORMS	3	112 OLIGURIA/ANURIA : OTHERS	1

**TABLE NO. 7 M : PERFORMANCE OF CHWS : TEST SCORES OF CHWS BY SUBJECT AND CATEGORY**

SR NO	NAME	EXAM I MEDICINE	EXAM II												
			AGREGATE	HUMAN BIOLOGY	PATHOLOGY	NUTRITION	COMMUNITY MEDICINE	DRUGS	GENERAL DIAGNOSTICS	PREGNANCY	CHILD HEALTH	MENTAL HEALTH	FORENSIC MED.	CANCER	OTHERS
		300	346	159	29	19	19	24	24	33	24	6	3	5	1
1	VISHNU KHADE	67	142	71	14	8	4	9	7	14	9	2	1	3	0
2	TRAMBAK PADEKAR	134	150	70	9	5	10	12	9	16	14	2	1	2	0
3	SONU WARE	110	137	61	13	6	4	12	10	16	11	1	1	2	0
4	SONU PARDHI	112	127	62	10	1	7	12	10	11	9	1	1	2	1
5	SHIVRAM BHAGAT	165	198	97	19	9	13	16	17	6	12	4	1	3	1
6	PUNAJI KHANDVI	130	140	69	8	6	7	9	8	14	12	2	2	3	0
7	MANGA BHASME	70	148	78	16	5	4	11	5	17	8	1	0	3	0
8	KASHIRAM WARGHADE	183	205	92	23	9	10	17	15	16	13	3	3	3	1
9	HARI AMBAPURE	175	193	91	20	9	10	13	14	14	14	2	2	4	0
	SENIOR MALES AVG.	127.33	160.00	76.78	14.67	6.44	7.67	12.33	10.56	13.78	11.33	2.00	1.33	2.78	0.33
10	YAMUNABAI WARE	79	96	45	6	5	5	5	6	11	5	6	1	3	1
11	SHEWANTABAI ZOLE	53	100	41	10	9	6	5	7	11	8	1	1	0	1
	SENIOR FEMALES AVG.	66.00	98.00	43.00	8.00	7.00	5.50	5.00	6.50	11.00	6.50	2.00	1.00	1.50	1.00
12	VISHNU SHID	85	103	50	8	4	7	1	7	9	10	2	3	1	1
13	SHIVRAM PARDHI	118	145	72	11	7	9	12	8	13	9	2	0	2	0
14	SHANTILAL BODHARE	106	114	50	12	6	5	10	6	11	10	2	0	2	0
15	RATAN DEHADE	91	136	65	13	7	6	7	10	14	9	0	2	3	0
16	DAGDU RAHATE	160	177	83	18	7	7	15	11	15	15	0	2	4	0
17	KASHINATH SHINDE	117	164	78	15	5	6	12	9	15	14	3	3	4	0
18	KANTILAL JADHAV	105	124	69	10	8	0	9	5	10	8	2	1	2	0
19	KALU DHAPTE	147	177	93	15	7	9	10	9	16	13	3	0	2	0
20	BHIKA KADALI	56	106	62	12	4	2	4	6	6	6	0	2	2	0
21	BHAU CHANDRE	124	150	83	10	4	7	9	9	16	9	1	1	1	0
22	BHAGCHAND MERANDE	141	159	77	18	6	9	13	11	13	7	2	1	2	0
	JUNIOR MALES AVG.	113.64	141.36	71.09	12.91	5.91	6.09	9.27	8.27	12.55	10.00	1.55	1.36	2.27	0.09
23	USHA GANGURDE	106	151	71	17	11	6	7	12	14	7	1	0	4	1
24	MANDA GARE	78	114	51	14	6	6	5	7	13	10	0	0	2	0
25	LILA WAGH	113	120	65	10	2	6	9	6	11	7	2	1	1	0
26	KAUSALYA KORDE	54	-	-	-	-	-	-	-	-	-	-	-	-	-
27	HIRABAI MHASLE	62	82	41	7	4	0	5	4	8	8	1	0	3	1
28	GULAB BENDKOLI	103	-	-	-	-	-	-	-	-	-	-	-	-	-
29	BAINA DHONGE	102	121	61	9	5	4	8	10	12	9	1	1	1	0
30	ANJALI THAKUR	124	188	100	66	8	10	15	12	11	10	3	0	3	0
	JUNIOR FEMALES AVG.	92.75	129.33	64.83	12.17	6.00	5.33	8.17	8.50	11.50	8.50	1.33	0.33	2.33	0.33
	TOTAL AVG.	109.00	141.68	69.57	12.96	6.18	6.39	9.71	8.93	12.61	9.86	1.68	1.11	2.39	0.29



**TABLE NO. 8 M : PERFORMANCE OF CHWS : PERCENTAGE TEST SCORES OF CHWS BY SUBJECT AND CATEGORY IN MCQ TESTS**

SR. NO.	NAME	EXAM I MEDICINES	EXAM II												
			AGREEGATE	HUMAN BIOLOGY	PATHOLOGY	NUTRITION	COMMUNITY MEDICINE	DRUGS	GENERAL DIAGNOSTICS	PREGNANCY	CHILD HEALTH	MENTAL HEALTH	FORENSIC MED.	CANCER	OTHERS
			300	346 .	159	29	19	19	24	24	33	24	6	3	1
1	VISHNU KHADE	22.33	41.04	44.65	48.28	42.11	21.05	37.50	29.17	42.42	37.50	33.33	33.33	60.00	0.00
2	TRAMBAK PADEKAR	44.67	43.35	44.03	31.03	26.32	52.63	50.00	37.50	48.48	58.33	33.33	33.33	40.00	0.00
3	SONU WARE	36.67	39.60	38.36	44.83	31.58	21.05	50.00	41.67	48.48	45.83	16.67	33.33	40.00	0.00
4	SONU PARDHI	37.33	36.71	38.99	34.48	5.26	36.84	50.00	41.67	33.33	37.50	16.67	33.33	40.00	100.00
5	SHIVRAM BHAGAT	55.00	57.23	61.01	65.52	47.37	68.42	66.67	70.83	18.18	50.00	66.67	33.33	60.00	100.00
6	PUNAJI KHANDVI	43.33	40.46	43.40	27.59	31.58	36.84	37.50	33.33	42.42	50.00	33.33	66.67	60.00	0.00
7	MANGA BHASME	23.33	42.77	49.06	55.17	26.32	21.05	45.83	20.83	51.52	33.33	16.67	0.00	60.00	0.00
8	KASHIRAM WARGHADE	61.00	59.25	57.86	79.31	47.37	52.63	70.83	62.50	48.48	54.17	50.00	100.00	60.00	100.00
9	HARI AMBAPURE	58.33	55.78	57.23	68.97	47.37	52.63	54.17	58.33	42.42	58.33	33.33	66.67	80.00	0.00
	SENIOR MALES AVG.	42.44	46.24	48.29	50.57	33.92	40.35	51.39	43.98	41.75	47.22	33.33	44.44	55.56	33.33
10	YAMUNABAI WARE	26.33	27.75	28.30	20.69	26.32	26.32	20.83	25.00	33.33	50.00	33.33	60.00	0.00	100.00
11	SHEWANTABAI ZOLE	17.67	28.90	25.79	34.48	47.37	31.58	20.83	29.17	33.33	33.33	16.67	33.33	0.00	100.00
	SENIOR FEMALES AVG.	22.00	28.32	27.04	27.59	36.84	28.95	20.83	27.08	33.33	27.08	33.33	33.33	30.00	100.00
12	VISHNU SHID	28.33	29.77	31.45	27.59	21.05	36.84	4.17	29.17	27.27	41.67	33.33	100.00	20.00	100.00
13	SHIVRAM PARDHI	39.33	41.91	45.28	37.93	36.84	47.37	50.00	33.33	39.39	37.50	33.33	0.00	40.00	0.00
14	SHANTILAL BODHARE	35.33	32.95	31.45	41.38	31.58	26.32	41.67	25.00	33.33	41.67	33.33	0.00	40.00	0.00
15	RATAN DEHADE	30.33	39.31	40.88	44.83	36.84	31.58	29.17	41.67	42.42	37.50	0.00	66.67	60.00	0.00
16	DAGDU RAHATE	53.33	51.16	52.20	62.07	36.84	31.58	29.17	41.67	42.42	37.50	0.00	66.67	60.00	0.00
17	KASHINATH SHINDE	39.00	47.40	49.06	51.72	26.32	31.58	50.00	37.50	45.45	58.33	50.00	100.00	80.00	0.00
18	KANTILAL JADHAV	35.00	35.84	43.40	34.48	42.11	0.00	37.50	20.83	30.30	33.33	33.33	33.33	40.00	0.00
19	KALU DHAPTE	49.00	51.16	58.49	51.72	36.84	47.37	41.67	37.50	48.48	54.17	50.00	0.00	40.00	0.00
20	BHIKA KADALI	18.67	30.64	38.99	41.38	21.05	10.53	16.67	25.00	18.18	25.00	0.00	66.67	40.00	0.00
21	BHAU CHANDRE	41.33	43.35	52.20	34.48	21.05	36.84	37.50	37.50	48.48	37.50	16.67	33.33	20.00	0.00
22	BHAGCHAND MERANDE	47.00	45.95	48.43	62.07	31.58	47.37	54.17	45.83	39.39	29.17	33.33	33.33	40.00	0.00
	JUNIOR MALES AVG.	37.88	40.86	44.71	44.51	31.10	32.06	38.64	34.47	38.02	41.67	25.76	45.45	45.45	9.09
23	USHA GANGURDE	35.33	43.64	44.65	58.62	57.89	31.58	29.17	50.00	42.42	29.17	16.67	0.00	80.00	100.00
24	MANDA GARE	26.00	32.95	32.08	48.28	31.58	31.58	20.83	29.17	39.39	41.67	0.00	0.00	40.00	0.00
25	LILA WAGH	37.67	34.68	40.88	34.48	10.53	31.58	37.50	25.00	33.33	29.17	33.33	33.33	20.00	0.00
26	KAUSALYA KORDE	18.00	-	-	-	-	-	-	-	-	-	-	-	-	-
27	HIRABAI MHASLE	20.67	23.70	25.79	24.14	21.05	0.00	20.83	16.67	24.24	33.33	16.67	0.00	60.00	100.00
28	GULAB BENDKOLI	34.33	-	-	-	-	-	-	-	-	-	-	-	-	-
29	BAINA DHONGE	34.00	34.97	38.36	31.03	26.32	21.05	33.33	41.67	36.36	37.50	16.67	33.33	20.00	0.00
30	ANJALI THAKUR	41.33	54.34	62.89	55.17	42.11	52.63	62.50	50.00	33.33	41.67	50.00	0.00	60.00	0.00
	JUNIOR FEMALES AVG.	30.92	37.38	40.78	41.95	31.58	28.07	34.03	35.42	34.85	35.42	22.22	11.11	46.67	33.33
	TOTAL AVG.	36.33	40.95	43.76	44.70	32.52	33.65	40.48	37.20	38.20	41.07	27.98	36.90	47.86	28.57



**TABLE NO. 9 M : DIFFERENCE BETWEEN SCORES OF CHWS BY YEARS OF WORK AND SUBJECT**

NO.	SUBJECT	RANK SUMS			RANK SUMS			RANK SUMS		
		SENIOR MALES	JUNIOR MALES	REMARK	JUNIOR MALES	JUNIOR FEMALES	REMARK	SENIOR MALES	JUNIOR FEMALES	REMARK
		(9)	(11)		(11)	(8)		(9)	(8)	
1	ANATOMY AND PHYSIOLOGY	107.50	102.00	NS	108.00	45.00	S	83.00	37.00	S
2	PATHOLOGY	94.66	98.33	NS	85.83	52.66	S	79.00	41.00	S
3	NUTRITION	94.32	100.15	NS	90.26	83.20	NS	71.81	37.83	S
4	PSM	95.09	100.38	NS	98.88	41.10	S	74.50	33.50	S
5	PHARMACOLOGY	88.40	107.60	NS	104.65	44.83	S	79.65	28.33	S
6	DIAGNOSTICS	95.58	107.41	NS	92.65	56.33	NS	73.16	39.83	S
7	PREGNANCY	95.65	100.35	NS	106.49	42.49	S	81.07	29.91	S
8	PEDIATRIC	95.93	103.06	NS	53.32	40.16	S	89.16	23.50	S
9	TOTAL EXAM II	100.50	109.50	NS	105.50	47.50	S	87.00	33.00	S
10	TOTAL EXAM I (CLINICAL SCIENCE)	104.00	106.00	NS	129.00	61.00	S	101.00	52.00	S
SIGNIFICANCE LEVEL : < 0.05										

**TABLE NO. 10 M : DIFFERENCE BETWEEN TEST SCORES OF CHWS ACCORDING TO SCHOOLING YEARS**

**CHWS BELOW 6TH STD, IN EXAM I & EXAM II**

NO.	CHWS WITH < 6TH STD (PASSING)	EXAM II	EXAM I
1	HARIBHAU	193	175
2	VISHNU KHADE	142	167
3	BHIKA	106	156
4	HIRABAI	82	62
5	RATAN	136	91
6	VISHNU SHID	103	85
7	SONU PARDHI	127	113
8	SHEWANTA	100	53
9	YAMUNA	96	79
10	MANGABHAU	148	70
11	KANTILAL	124	105
NO.	CHWS WITH > 6TH STD EDUCATION	EXAM II	EXAM I
1	KASHIRAM	205	183
2	KASHINATH	164	117
3	BHAU CHANDRE	150	124
4	SONU WARE	137	113
5	SHANTILAL	114	106
6	LILABAI	120	113
7	TRIMBAK	150	134
8	PUNAJI	140	130
9	SHIVRAM BHAGAT	198	165
10	KALU	177	147
11	BHALCHANDRA	159	141
12	MANDA	114	78
13	ANJALI	188	124
14	USHA	151	106
15	BAIJA	121	102
16	SHIVRAM PARDHI	145	118
17	DAGDU	177	160
18	KUSALLYA	-	54
19	GULAB	-	103
WILLCOXAN RANK SUM TEST FOR TESTING DIFFERENCE TO BE HIGHLY SIGNIFICANCE		(P< 0.01)	(P< 0.01)



**TABLE NO. 14 M : GRADES AND SCORES OBTAINED BY 22 CIWS IN SKILLS TEST**

HEALTH WORKERS GRADES	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	TOTAL
GRADE A	12	12	29	30	28	28	14	8	13	9	15	18	24	11	14	15	19	10	15	26	15	15	380
GRADE B	21	24	20	19	16	20	16	20	20	22	19	14	15	14	25	18	19	10	18	19	21	23	413
GRADE C	17	14	1	1	6	2	20	22	17	19	13	18	11	25	11	17	12	30	17	5	14	12	304
INVALID	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	3
SCORE %	63	65	85	86	81	84	63	57	64	60	64	67	75	57	69	65	71	53	65	81	67	69	1100

NOTE : SCORES HAVE BEEN PREPARED BY ASCRIBING 0, 1, 2, 3 TO GRADES INVALID, C, B AND A RESPECTIVELY AND ADJUSTING FOR PERCENTAGE;  
THE TOTAL MAXIMUM SCORE BEING 150, ASSUMING 'A' GRADE FOR ALL 50 SKILLS.

TABLE NO. 16 M : VILLAGEWISE DISTRIBUTION OF STUDY POPULATION

NO.	VILLAGE GROUP	HEALTH WORKER CATEGORY	NO. OF HOUSEHOLDS	NO. OF INTERVIEWED	% COVERED
1	LAXMANPADA	A	27	13	48.14%
	DAGADMAL		08	05	62.05%
	JAWAIWADI		19	05	26.03%
2	RAIPADA	A	32	22	68.75%
3	DAHLEWADI	B	99	30	30.30%
4	VIJPADA	B	23	18	78.26%
	PULACHIWADI		16	14	87.50%
5	AWATHE	C	32	22	68.75%
6	DEVGAON	C	71	31	43.66%
	TOTAL		327	160	48.92%

TABLE NO. 18 M : CHOICE OF FIRST CONTACT CARE AGENCY IN SIX VILLAGE GROUPS\*

NO.	AGENCY TREATING	L'PADA GROUP	RAIPADA	D'WADI	VIJPADA GROUP	AWHATE	DEVGAON	TOTAL	PERCENTAGE(%)
	N =	23	22	30	32	22	31	160	100%
1	HOME REMEDIES	1	3	5	1	0	3	13	8.13%
2	VAIDU	1	0	1	0	0	1	3	1.88%
3	BHAGAT	2	0	2	0	0	0	4	2.50%
4	DEVI DOCTOR	0	0	0	0	0	0	0	0.00%
5	CHW	17	13	7	18	13	17	85	53.13%
6	GOVT. DOCTOR	0	0	1	1	0	0	2	1.25%
7	ANM	0	0	0	0	0	0	0	0.00%
8	OTHERS	0	0	0	0	0	0	0	0.00%
9	PVT. DOCTOR	2	5	14	12	9	9	51	31.88%
10	CAN'T SAY/ UNDECIDED	0	0	0	0	0	0	0	0.00%
11	DIST. HOSPITAL	0	0	0	0	0	1	1	0.63%
12	NO RESPONSE	0	1	0	0	0	0	1	0.63%

\* - RESPONSE TO THE QUESTION : 'WHERE WILL YOU GO FOR TREATMENT IF SICK ?'



TABLE NO. 20 M : AGENCY PREFERRED BY COMMUNITY ACCORDING TO TYPE OF HEALTH PROBLEMS

NO.	ILLNESS	HOME REMEDIES	VAIDU	CHW	BHAGAT	ANM	DEVI DOCTOR *	PRIVATE DOCTOR	GOV. DOCTOR	DIST. HOSPITAL	TOTAL
1	FEVER	3	1	76	13	1	1	55	1	-	151
2	COUGH	2	-	29	-	-	-	19	3	-	53
3	HEAD-ACHE	2	2	40	3	1	-	15	6	-	69
4	STOMACH-ACHE	2	5	31	4	-	-	20	6	1	69
5	DIARRHOEA	2	1	29	1	1	-	19	4	1	58
6	ARTHRITIS	-	2	2	3	-	1	9	2	-	19
7	STOMATITIS	1	-	3	-	-	-	-	1	-	5
8	BODY-ACHE	1	-	4	2	-	-	10	-	1	18
9	PNEUMONIA	-	-	-	-	-	-	-	-	-	0
10	POSSESSION SYNDROME	-	-	1	39	-	-	1	-	-	4
11	WOUNDS	2	3	5	4	-	-	3	-	-	17
12	SERIOUS ILLNESS	-	-	-	1	-	-	11	1	1	14
13	GYNAEC COMPLAINTS	-	1	-	1	-	-	3	-	-	5
14	SORE EYES	-	-	-	-	-	-	1	1	-	2
15	ANEMIA	-	-	-	-	-	-	-	-	-	0
16	COLD	-	-	2	-	-	-	-	-	-	2
17	JAUNDICE	-	1	-	-	-	-	-	-	-	1
18	BLISTERS	-	1	-	-	-	-	-	-	-	1
19	INDIGESTION	-	1	-	-	-	-	-	-	-	1
20	SKIN DISEASE	-	1	-	-	-	-	2	-	-	3
21	SCABIES	-	1	2	-	-	-	-	-	-	3
22	SNAKEBITE	1	2	-	3	-	-	4	3	-	13
23	FAMILY PLANNING	-	-	-	1	-	-	-	1	-	2
24	GIDDINESS	-	-	-	1	-	-	-	-	-	1
26	ASTHMA	-	-	-	-	-	-	1	-	-	1
27	IF NOT CURED	-	-	-	-	-	-	1	-	2	3
28	DELIVERY	1	-	-	-	-	-	3	3	1	8
29	WORM INFESTATION	-	-	-	-	-	-	1	-	-	1
30	GRAVE ILLNESSES	-	-	-	-	-	-	1	-	1	2
31	BURNS	-	-	-	-	-	-	-	1	1	2
32	NUMBNESS IN LIMBS	-	-	-	-	-	-	-	1	-	1
33	PARALYSIS	-	1	-	-	-	-	1	-	-	2
34	SMALL POX	-	-	-	-	1	1	-	-	-	2
35	T.B.	-	-	-	-	-	-	1	-	-	1
36	IMMUNIZATION	-	-	-	-	6	-	-	-	-	6
37	CONJUNCTIVITIS	-	-	-	1	-	-	-	-	-	1
38	MEASLES	-	-	-	-	-	-	1	-	-	1
39	BOILS	-	-	-	-	-	-	1	-	-	1
40	SWELLINGS	1	1	-	-	-	-	1	-	-	3
41	LOW BACKACHE	-	1	-	-	-	-	-	-	-	1
42	BLOOD DYSENTERY	-	-	-	-	-	-	1	-	-	1
43	MIGRAINE	-	-	-	-	-	-	1	-	-	1
* - MALE MPW											

**TABLE NO. 21 M : REASONS FOR PREFERENCES FOR CERTAIN HEALTH CARE AGENCY**

NO.	ILLNESS	HOME REMEDIES	VAIDU	CHW	BHAGAT	ANM	DEVI DOCTOR *	PRIVATE DOCTOR	DIST. HOSPITAL	TOTAL
1	DEFINITELY CURES	-	4	29	8	1	19	2	1	64
2	NO ALTERNATIVE	2	2	2	1	3	6	2	1	19
3	CAN AFFORDABLE	1	1	5	-	1	1	1	1	11
4	ACCESS	-	-	13	1	-	1	-	-	15
5	DOCTOR UNAVAILABLE	-	-	-	3	-	-	-	-	10
6	IF NOT CURED	-	-	3	13	-	5	1	1	19
7	IF GETS SERIOUS	-	-	-	-	1	-	-	1	2
8	GIVES INJECTION	-	-	-	-	7	6	-	-	13
10	GIVES MEDICINES AND HOLY ASHES	1	-	2	-	1	-	-	-	4
11	NO TRUST IN GOVT. MEDICINES	-	-	2	-	1	2	-	-	5
12	OTHER REASONS	-	-	-	-	2	1	1	-	4
* - MALE MPW										

**TABLE NO. 22 M : TASKS PERFORMED BY THE ANM AS DESCRIBED BY THE HOUSEHOLDS**

NO.	TASKS	LAXMAN- PADA GROUP	RAIPADA	DAHLE WADI	VIJPADA GROUP	AWHATE	DEVGAON	TOTAL
	N =	23	22	30	32	22	31	160
1	IMMUNIZATION	22	19	21	18	20	24	124
2	FAMILY PLANNING	5	0	14	12	8	9	48
3	DELIVERIES	7	1	6	4	2	12	32
4	ANC	17	14	17	15	17	17	97
5	DISPENSING MEDICINES	13	18	20	14	15	15	95
6	CAN'T SAY/DON'T KNOW	2	1	1	4	1	2	11
7	NO RESPONSE	0	1	2	0	0	3	6



**TABLE NO. 23 M : COMMON AILMENTS IN THE VILLAGES AS PERCEIVED BY THE HOUSEHOLDS**

NO.	ILLNESS	LAXMAN-PADA GROUP	RAIPADA	DAHALE WADI	VIJPADA GROUP	AWHATE	DEVGAON	TOTAL	RANK
	N =	23	22	30	32	22	31	160	
1	FEVER	18	12	27	25	19	17	118	1
2	COUGH	6	7	5	12	11	8	49	2
3	HEADACHE	3	6	0	7	3	7	26	4
4	STOMACHACHE	2	8	2	4	3	5	24	5
5	DIARRHOEA	14	6	6	3	6	8	43	3
6	DYSENTERY	0	0	0	0	1	0	1	
7	ARTHRITIS	2	2	0	1	1	5	11	9
8	COLD	1	1	1	2	0	1	6	
9	BODYACHE	0	1	4	2	2	6	15	7
10	SNAKEBITE	1	1	0	0	0	0	2	
11	BLISTERS	4	2	1	2	0	4	13	8
12	SORE EYE	3	1	0	1	0	0	5	
13	PARALYSIS	0	0	0	0	1	0	1	
14	GIDDINESS	0	0	0	0	0	2	2	
15	SERIOUS	0	0	0	0	0	0	0	
16	MEASLES/CHICKEN POX	2	2	9	1	0	3	17	6
17	SMALL POX (?)	0	0	3	0	0	0	3	
18	POSSESSION SYNDROME	0	0	1	0	0	0	1	
19	GYNAC PROBLEMS	0	0	1	0	0	0	1	
20	SCABIES	0	0	2	0	1	4	7	10
21	DELIVERIES	0	0	1	0	0	0	1	
22	INDIGESTION	0	0	0	0	0	1	1	
23	CAN'T SAY/DON'T KNOW	2	4	0	4	3	5	18	
24	NO RESPONSE	0	1	1	0	0	1	3	

**TABLE NO. 24 M : 'DIFFICULT' ILLNESSES IN THE VILLAGES AS PERCEIVED BY THE HOUSEHOLDS**

NO.	ILLNESS	LAXMAN-PADA GROUP	RAIPADA	DAHALE WADI	VIJPADA GROUP	AWATHE	DEVGAON	TOTAL
	N =	23	22	30	32	22	31	160
1	FEVER	1	2	8	6	5	1	23
2	DIARRHOEA	9	0	8	0	7	4	28
3	ARTHRITIS	0	0	1	0	2	3	6
4	SNAKEBITE	1	0	3	0	3	4	11
5	MEASLES / CHICKEN POX	0	1	5	0	0	0	6
6	POSSESSION SYNDROME	3	0	2	0	0	4	9
7	GYNAC PROBLEMS	0	0	1	0	0	0	1
8	DELIVARIES	0	0	1	0	0	1	2
9	TUBERCULOSIS	3	0	1	0	1	4	9
10	CAN'T SAY/DON'T KNOW	4	11	1	8	0	0	24
11	NO RESPONSE	0	0	4	0	0	0	4

TABLE NO. 25 M : ILLNESSES CHWS CAN TREAT OR CAN NOT TREAT -  
COMMUNITY OPINION !

NO.	ILLNESS	LAXMAN- PADA GROUP		RAIPADA		DAHALE WADI		VILPADA GROUP		AWHATE		DEVGAON		TOTAL RES- PONSE		NON RES- PONSE	TOTAL
	N =	23		22		30		32		22		31					
		CAN	CAN NOT	CAN	CAN NOT	CAN	CAN NOT	CAN	CAN NOT	CAN	CAN NOT	CAN	CAN NOT	CAN	CAN NOT		
1	FEVER	18	2	12	1	14	4	16	1	17	3	14	3	91	14	55	160
2	COUGH	7	1	4	1	7	1	12	-	9	1	2	-	41	4	115	160
3	HEADACHE	8	1	9	1	14	-	11	1	8	1	1	-	51	4	105	160
4	STOMACH- ACHE	9	-	10	2	3	-	10	1	3	1	12	2	47	6	107	160
5	DIARRHOEA	13	7	6	7	5	6	7	2	1	2	4	4	36	28	96	160
6	DYSEN- TERY	-	-	11	-	-	-	-	-	-	-	-	-	11	-	149	160
7	ARTHRITIS	-	-	-	2	2	2	-	-	1	6	-	1	3	11	146	160
8	COLD	-	-	-	-	5	-	-	1	2	-	-	2	7	3	150	160
9	MINOR ILLNESS	-	-	-	-	-	-	-	1	1	-	-	1	1	2	157	160
10	FATAL ILLNESS	-	-	-	-	-	1	-	3	-	2	2	2	2	8	150	160
11	CHICKEN POX	-	1	-	2	-	1	-	-	-	-	1	1	1	5	154	160
12	PARALYSIS	-	1	-	-	-	-	1	-	-	-	-	-	1	1	158	160
13	SERIOUS	-	-	-	-	-	-	-	-	-	-	1	1	1	1	158	160
14	SNAKEBITE	-	3	-	2	-	-	-	-	-	-	2	4	2	9	149	160
15	SCABIES	-	-	-	-	-	3	-	-	-	1	3	-	3	4	153	160
16	WOUNDS	-	-	-	-	-	-	1	-	-	-	-	-	1	-	159	160
17	STOMATITIS	3	-	-	-	-	-	3	-	-	-	-	-	6	-	154	160
18	BOILS	-	-	-	-	1	-	-	-	-	-	2	-	3	-	157	160
19	WORMS	-	-	-	-	-	-	-	-	-	-	1	-	1	-	159	160
20	PHYSICAL ILLNESS	-	-	-	-	-	-	1	-	-	-	-	-	1	-	159	160
21	GYNAC	1	1	-	-	-	-	-	-	-	-	-	-	1	1	158	160
22	TUMOR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	BLISTERS ON THE BODY	1	-	-	-	-	-	-	-	-	-	-	-	1	-	159	160
24	T.B.	1	-	-	-	-	2	-	1	-	-	-	2	1	5	154	160
25	POSSES- SION SYNDROME	-	1	-	-	-	-	1	-	-	-	-	-	1	1	158	160
26	BODYACHE	-	2	-	1	-	1	-	-	-	-	4	-	4	4	152	160
27	DELIVERY	-	1	-	-	1	-	-	-	-	-	-	-	1	1	158	160
28	ANEMIA	-	-	-	-	-	-	-	1	-	-	-	-	-	1	159	160
29	LEUCORR- HOEA	-	-	-	1	-	-	-	-	-	-	-	-	-	1	159	160
30	TETANUS	-	-	-	3	-	-	-	-	-	-	-	-	-	3	157	160
31	GIDDINESS	-	-	-	-	-	-	-	1	-	-	-	-	-	1	159	160



**26 M - 1 : DO THE CHWS EXAMINE ?**

NO.	RESPONSES	L'MAN-PADA GROUP	RAIPADA	D'WADI	VIJPADA GROUP	AWHATE	DEV-GAON	TOTAL	PERCENTAGE
	N =	23	22	30	32	22	31	160	100%
1	YES	16	11	16	23	10	14	90	56.25%
2	NO	6	9	10	4	10	9	48	30.00%
3	CAN NOT SAY	0	0	2	0	0	3	5	3.13%
4	NO RESPONSE	1	2	2	0	1	3	9	5.63%
5	NOT APPLICABLE	0	0	0	5	1	2	8	5.00%
	TOTAL	23	22	30	32	22	31	160	100.00%

**26 M - 2 : DO THE CHWS EXPLAIN THE AILMENT ?**

NO.	RESPONSES	L'MAN-PADA GROUP	RAIPADA	D'WADI	VIJPADA GROUP	AWHATE	DEV-GAON	TOTAL	PERCENTAGE
	N =	23	22	30	32	22	31	160	100%
1	YES	15	10	12	17	6	9	69	43.13%
2	NO	7	10	14	7	14	11	63	39.38%
3	CAN NOT SAY	0	1	1	0	0	8	10	6.25%
4	NO RESPONSE	1	1	3	2	1	3	11	6.88%
5	NOT APPLICABLE	0	0	0	5	1	0	6	3.75%
	TOTAL	23	22	30	32	22	31	160	100.00%

**26 M - 3 : DO THEY FOLLOW UP IN ILLNESSES ?**

NO.	RESPONSES	L'MAN-PADA GROUP	RAIPADA	D'WADI	VIJPADA GROUP	AWHATE	DEV-GAON	TOTAL	PERCENTAGE
	N =	23	22	30	32	22	31	160	100%
1	YES	21	11	19	25	12	14	102	63.75%
2	NO	1	10	7	2	6	7	33	20.63%
3	CAN NOT SAY	0	0	0	2	1	7	10	6.25%
4	NO RESPONSE	1	1	4	3	2	3	14	8.75%
5	NOT APPLICABLE	0	0	0	0	1	0	1	0.63%
	TOTAL	23	22	30	32	22	31	160	100.00%

**26 M - 4 : DO THEY ACCOMPANY THE PATIENT TO THE REFERRAL CENTER ?**

NO.	RESPONSES	L'MAN-PADA GROUP	RAIPADA	D'WADI	VIJPADA GROUP	AWHATE	DEV-GAON	TOTAL	PERCENTAGE
	N =	23	22	30	32	22	31	160	100%
1	YES	16	12	16	17	8	3	72	45.00%
2	NO	5	7	7	4	9	16	48	30.00%
3	SOMETIMES	0	0	0	2	0	1	3	1.88%
4	CAN NOT SAY	0	1	1	4	2	7	15	9.38%
5	NO RESPONSE	2	2	5	0	2	3	14	8.75%
6	NOT APPLICABLE	0	0	1	5	1	1	8	5.00%
	TOTAL	23	22	30	32	22	31	160	100.00%

**26 M - 5 : DO THEY TREAT \* GYNEACOLOGICAL DISEASES ?**

NO.	RESPONSES	L'MAN-PADA GROUP	RAIPADA	D'WADI	VIJPADA GROUP	AWHATE	DEV-GAON	TOTAL	PERCENTAGE
	N =	23	22	30	32	22	31	160	100%
1	YES	12	13	14	14	5	12	70	43.75%
2	NO	10	6	6	3	6	8	39	24.38%
3	SOMETIMES	0	0	0	1	2	0	3	1.88%
4	CAN NOT SAY	0	0	1	7	4	9	21	13.13%
5	NO RESPONSE	1	2	7	2	3	2	17	10.63%
6	NOT APPLICABLE	0	0	0	5	1	0	6	3.75%
7	OCCASION DIDN'T ARISE	0	1	2	0	1	0	4	2.50%
	TOTAL	23	22	30	32	22	31	160	100.00%
* - THIS WORD IS UNDEFINED. SEE TEXT.									

**26 M - 6 : COMPARING CATEGORY OF CHWS WITH FIRST CONTACT CARE OF THE COMMUNITY PREFERENCE**

NO.	VILLAGES	CATEGORY	% OF SEEKING THE FIRST CONTACT CARE
1	LAXAMANPADA GROUP	A	72.72
2	RAIPADA	A	59.00
3	DAHLEWADI	B	23.09
4	VIJPADA	B	56.25
5	AWHATE	C	59.07
6	DEVGAON	C	56.66



TABLE NO. 27 M : TASKS PERCEIVED AS BEING PERFORMED BY THE CHWS

NO.	TASK	LAXMAN-PADA GROUP	RAIPADA	DAHLE WADI	VIJPADA GROUP	AWATHE	DEVGAON	TOTAL
		YES/NO	YES/NO	YES/NO	YES/NO	YES/NO	YES/NO	YES/NO
	N =	23	22	30	32	22	31	
1	DISPENSING MEDICINES	20/01	21/00	26/00	29/00	22/00	25/03	143/4
2	GROWTH MONITORING	18/03	20/01	19/07	22/07	15/07	10/18	104/43
3	PROMOTION OF							
	A. FAMILY PLANNING	10/11	05/16	13/13	13/16	06/16	04/24	51/96
	B. SMOKELESS CHULLAH	11/10	03/18	18/08	03/26	11/11	09/19	55/92
	C. IMMUNIZATION	08/13	06/15	08/18	12/17	05/17	11/17	50/97
	D. PERSONAL HYGIENE	17/04	08/13	15/11	14/15	07/15	17/11	78/69
	E. LATRINE CONSTRUCTION	06/15	00/21	04/22	02/27	00/22	00/28	12/135
	F. ANY OTHER	03/18	00/21	00/25	00/29	01/21	00/28	4/142
	G. NO RESPONSE	2	1	4	3	0	3	13

TABLE NO. 28 M : COMMUNITY'S EXPECTATIONS FROM THE CHWS

NO.	EXPECTATIONS	L'MAN-PADA GROUP	RAI-PADA	D'WADI	VIJPADA GROUP	AWHATE	DEV-GAON	TOTAL RESPONSE	NON-RESPONSE
	N =	23	22	30	32	22	31	160	100%
1	INJECTIONS	7	5	15	9	11	3	50	110
2	MORE MEDICINES/TONICS	5	2	13	11	14	2	47	113
3	DISPENSARY/AMBULANCE	5	6	1	2	1	14	29	131
4	CONDUCT DELIVERIES	1	0	4	14	2	0	21	139
5	MORE TRAINING	0	0	0	0	2	2	4	156
6	SHOULD VISIT AT HOME	0	1	0	0	0	0	1	159
7	STETHOSCOPE NEEDED	1	0	0	1	0	0	2	158
8	GENERAL	0	0	2	0	2	1	5	155
9	SHOULD EXAMINE	0	1	0	0	0	1	2	158
10	SALINE	0	0	1	0	0	0	1	150
11	FEMALE CHW BE GIVEN	1	0	0	1	0	0	2	158
12	NO EXPECTATIONS	5	7	8	1	0	6	27	133
13	CAN'T SAY	1	1	4	5	0	3	14	146
14	NO RESPONSE	3	2	1	3	4	2	15	145

TABLE NO. 29 M : COMPLAINTS EXPRESSED BY THE RESPONDENTS ABOUT CHWS

NO.	COMPLAINTS	L'MAN-PADA GROUP	RAIPADA	D'WADI	VIJPADA GROUP	AWHATE	DEV-GAON	TOTAL	NON-RESPONSE
	N =	23	22	30	32	22	31	160	
1	INADEQUATE MEDICINES	0	0	6	0	4	0	10	150
2	DOES NOT EXAMINE	1	0	0	0	1	0	2	158
3	UNQUALIFIED	0	0	2	0	2	0	4	156
4	DOESN'T COME TO VISIT PATIENTS	0	2	0	0	2	1	5	155
5	CAN NOT DIAGNOSE	0	0	0	0	0	1	1	159
6	TAKES MONEY	0	0	0	0	0	1	1	159
7	NO INJECTION	0	0	0	0	0	0	0	0
8	NO COMPLAINTS	17	16	19	20	9	24	105	55
9	CAN'T SAY	4	1	0	0	0	1	6	154
10	NO RESPONSE	1	3	5	8	6	3	26	134
11	NOT APPLICABLE	0	0	0	4	0	0	4	156

TABLE NO. 30 M : USES OF HAVING A CHW IN THE VILLAGE - COMMUNITY OPINION

NO.	TYPE OF BENEFITS	L'MAN-PADA GROUP	RAIPADA	D'WADI	VIJPADA GROUP	AWHATE	DEV-GAON	TOTAL
	N =	23	22	30	32	22	31	160
1	CHILDREN TOOK TO SCHOOLING	2	2	10	4	0	1	19
2	TREATMENT ON MINOR ILLNESSES	14	9	10	21	17	9	80
3	MEDICAL AID	12	6	9	0	0	7	34
4	NO BENEFITS	1	2	2	2	1	6	14
5	CAN'T SAY/ DON'T KNOW	5	1	1	5	1	5	18
6	NO RESPONSE	1	4	5	1	1	1	13

TABLE NO. 31 M : HOW PEOPLE RATE THE EFFECTIVENESS OF CHWS

NO.	VILLAGES	4 ANNAS	8 ANNAS	12 ANNAS	16 ANNAS	CAN'T SAY	NO RESPONSE	TOTAL (%)
1	L'MAN PADA GROUP	4	13	1	2	0	2	23
2	RAIPADA	11	2	0	2	2	5	22
3	D'WADI	9	12	4	0	2	3	30
4	VIJPADA GROUP	13	10	3	1	2	3	32
5	AWHATE	9	10	0	0	2	1	22
6	DEVGAON	11	5	2	0	7	6	31
	TOTAL	57	52	10	5	16	20	160



**TABLE NO. 32 :THE TASKS PERFORMED BY WOMEN CHWS**  
**32 M - 1 : ANTE NATAL CARE**

NO.	RESPONSES	RAIPADA		DAHALEWADI		DEVGAON	
	N =	22	%	30	%	31	%
1	YES	15	68	15	50	10	33
2	NO	5	23	7	23	7	22
3	CAN'T SAY	0	0	3	10	8	25
4	NO RESPONSE	2	9	5	17	6	20
	TOTAL	22	100	30	100	31	100

**32 M- 2 : HELPING DAIS IN CONDUCTING DELIVEREIES**

NO.	RESPONSES	RAIPADA		DAHALEWADI		DEVGAON	
	N =	22	%	30	%	31	%
1	YES	14	63	20	67	6	20
2	NO	3	14	3	10	7	23
3	CAN'T SAY	3	14	1	3	11	35
4	NO RESPONSE	2	9	6	20	6	19
5	NOT APPLICABLE	0	0	0	0	1	3
	TOTAL	22	100	30	100	31	100

**32 M - 3 : TREATING\* GYNEAC PROBLMES**

NO.	RESPONSES	RAIPADA		DAHALEWADI		DEVGAON	
	N =	22	%	30	%	31	%
1	YES	12	55	14	47	6	19
2	NO	6	27	8	27	9	29
3	CAN'T SAY	1	5	2	6	9	29
4	NO RESPONSE	3	13	6	20	7	23
	TOTAL	22	100	30	100	31	100
* UNDEFINED TERM							

**32 M - 4 : ADVISE FAMILY PLANNING**

NO.	RESPONSES	RAIPADA		DAHALEWADI		DEVGAON	
	N =	22	%	30	%	31	%
1	YES	7	32	16	54	10	33
2	NO	11	50	7	23	6	19
3	CAN'T SAY	1	4	1	3	9	29
4	NO RESPONSE	3	14	6	20	6	19
	TOTAL	22	100	30	100	31	100

TABLE NO. 33 M - 1 : STUDY OF 31 CHW RECORDS : DAILY ATTENDENCE OF PATIENTS

**MALE CHWS :-**

NO.	NAME OF CHW	POPULA- TION	PERIOD OF STUDY (DAYS)	DAILY ATTEN- DANCE	AVG.DAILY ATTEN- DANCE PER 100 POPULA- TION
1	SHIVRAM BHAGAT	105	116	0.86	0.82
2	SHANTILALA BODHARE	258	75	1.33	0.52
3	KANTILAL JADHAV	188	112	0.89	0.47
4	RATAN DEHADE	267	96	1.04	0.39
5	TRIMBAK PADEKAR	402	38	2.63	0.65
6	VISHNU SHID	142	92	1.09	0.77
7	PUNAJI KHANDVI	167	100	1.00	0.60
8	MANGA BHASME	422	63	1.59	0.38
9	BHAGCHANDRA MERANDE	103	124	0.81	0.78
10	SHIVRAM PARDHI	281	77	1.30	0.46
11	KASHINATH SHENDE	301	107	0.93	0.31
12	BHAU CHANDRE	548	50	2.00	0.36
13	SONE PARDHI	268	80	1.25	0.47
14	DAGDU RAHATE	340	95	1.05	0.31
15	BHIKA KADALI	253	70	1.43	0.56
16	VISHNU KHADE	470	68	1.47	0.31
17	KALU DHAPATE	315	101	0.99	0.31
18	KASHIRAM WARGHADE	245	39	2.56	1.05
19	HIRABHAU AMBAPURE	720	32	3.13	0.43
20	SONU SOMA WARE	191	81	1.23	0.65
TOTAL		5986	1616	-	-
AVERAGE		285.04	76.95	1.36	0.50

**FEMALE CHWS :-**

NO.	NAME OF CHW	POPULA- TION	PERIOD OF STUDY (DAYS)	DAILY ATTEN- DANCE	AVG. DAILY ATTEN- DANCE PER 100 POPULA- TION
1	YAMUNABAI WARE	219	86	1.16	0.53
2	SHEWANTA ZOLE	234	142	0.70	0.30
3	USHA GANGURDE	521	80	1.25	0.24
4	KAUSALYA KORDE	774	69	1.45	0.19
5	GULAB BENDKOLI	300	63	1.59	0.53
6	LILA WAGH	184	97	1.03	0.56
7	MANDA WARE	418	94	1.06	0.25
8	BAIJA THONGE	442	65	1.54	0.35
9	ANJALI THAKUR	467	84	1.19	0.25
10	HIRABAI MHASALE	527	65	1.54	0.29
11	MANGALA DEHADE	233	60	1.67	0.72
TOTAL		4319	905	-	-
AVERAGE		392.63	82.27 Days	1.28	0.38



TABLE NO. 33 M : 2 PATIENTS TREATED AND REFERRED BY COMMUNITY HEALTH WORKERS \* 1989 - 1994

NO.	NAME OF THE HEALTH WORKER	1989		1990		1991		1992		1993		TOTAL	
		TOTAL T	TOTAL R	TOTAL T	TOTAL R	TOTAL T	TOTAL R	TOTAL T	TOTAL R	TOTAL T	TOTAL R	1989 T	1994 R
1	ANJALIHEMANT THAKUR	-	-	-	-	-	-	-	-	296	2	296	2
2	BAIJA NAMDEO DHONGE	-	-	-	-	-	-	-	-	526	15	526	15
3	BHAGCHAND LAHU MERANDE	-	-	-	-	573	3	274	2	70	9	1117	14
4	BHAU CHANDRE	-	-	-	-	873	28	360	10	642	11	1875	49
5	BHIKABHAU KADELI	-	-	-	-	349	41	415	40	490	43	1254	124
6	DAGADU KERU RAHATE	-	-	-	-	-	-	-	-	350	1	350	1
7	GULAB RAJARAM BENDKOLI	-	-	-	-	-	-	-	-	414	30	414	30
8	HARIBAHU AMBAPURE	410	-	677	-	813	45	1179	65	1320	49	4399	159
9	HEERABAI MHASALE	-	-	-	-	265	21	286	25	320	13	871	59
10	KALU DHAPATE	-	-	-	-	371	13	305	1	335	5	1011	19
11	KANTILAL NAVSU JADHAV	-	-	-	-	-	-	-	-	263	3	263	3
12	KASHINATH SHENDE	-	-	-	-	371	27	280	13	287	12	938	52
13	KASHIRAM WARGHADE	469	-	616	-	831	36	1156	41	1368	31	4440	108
14	KAUSALYA PANDURANG KORDE	-	-	-	-	-	-	-	-	269	38	269	38
15	LILA CHANDER WAGH	-	-	-	-	-	-	-	-	290	16	290	16
16	MANDABAI KALU GARE	-	-	-	-	-	-	-	-	337	8	337	8
17	MANGA BHAI BHASME	139	-	259	-	315	6	450	8	402	4	1565	18
18	MANGALA JAGAN DEHADE	-	-	-	-	-	-	-	-	476	2	476	2
19	PUNAJIKHANDIVI	228	-	184	-	334	9	266	2	332	4	1344	15
20	RATAN CHANDAR DEHADE	-	-	-	-	382	9	606	19	393	10	1381	38
21	SHANTILAL BORHADE	-	-	-	-	432	7	683	10	683	4	1798	21
22	SEWANTABAI ZOLE	307	-	546	-	593	66	589	-	737	4	2772	70
23	SHIVRAM BHAGAT	166	-	147	-	179	12	247	11	244	7	983	30
24	SHIVRAM GANGARAM PARDHI	-	-	-	-	-	-	-	-	430	12	430	12
25	SONU PARDHI	273	-	315	-	441	13	463	10	455	5	1947	28
26	SONU SOMU WARE	131	-	218	-	342	-	417	8	338	4	1446	12
27	TRIMBAK PADEKAR	294	-	845	-	752	10	718	24	800	30	3409	64
28	USHA VISWAS GANGURDE	-	-	-	-	-	-	-	-	342	3	342	3
29	VISHNU SHID	-	-	-	-	583	12	424	1	393	12	1400	25
30	VISHNU RAMA KHADE	285	-	436	-	467	27	562	23	511	10	2261	60
31	YAMUNABAI WARE	258	-	227	-	319	4	287	3	489	8	1580	15
TOTAL		2960	-	4470	-	9585	389	9967	316	14802	405	41784	1110
AVERAGE PER CHW		269.09	-	406.36	-	479.25	19.45	498.35	15.8	477.48	13.06	-	-
NO. OF CHW		11	-	11	-	20	-	20	-	31	-	-	-
AVERAGE DAILY ATTENDANCE BY CHWS		0.81	-	1.11	-	1.32	-	1.36	-	1.30	-	-	-

\* - ONLY RECORDS OF CHWS CURRENTLY WORKING IN THE PROGRAM ARE CONSIDERED.

TABLE NO. 34 M : THE FREQUENCY DISTRIBUTION OF FIRST SYMPTOMS IN 31 CHW RECORDS

CHW	ABDOMINAL PAIN	BURNING IN ABDOMEN	LOOSE MOTIONS	MUCOUS STOOLS	BLOOD IN MOTION	VOMITING	WORMS	FEVER WITHOUT RIGOR	FEVER WITH RIGOR	BODYACHE AND BACKACHE	HEADACHE	WOUND	COUGH	OTHER	TOTAL
1	25	14	1	0	0	0	1	34	2	0	0	13	4	6	100
2	19	0	2	0	0	0	1	51	6	0	2	0	11	8	100
3	17	0	2	0	0	2	5	14	11	17	13	0	10	9	100
4	7	0	11	0	0	0	4	26	19	0	3	3	0	27	100
5	0	0	25	0	0	1	12	1	11	1	24	2	8	15	100
6	18	0	8	0	0	0	2	14	8	9	8	6	10	17	100
7	8	0	19	1	0	1	5	24	2	4	22	2	10	2	100
8	26	0	6	0	0	1	2	21	10	1	12	1	10	10	100
9	7	1	7	0	3	2	7	19	10	6	18	0	4	16	100
10	16	0	8	0	2	0	5	17	19	8	13	0	0	12	100
11	6	0	0	0	0	0	0	13	55	0	6	0	2	18	100
12	1	0	11	0	2	7	2	38	4	2	2	8	2	21	100
13	3	0	12	0	0	0	2	16	19	1	32	1	0	14	100
14	29	0	0	0	0	0	0	50	8	0	3	0	3	7	100
15	6	0	8	2	0	2	3	13	12	0	23	2	8	21	100
16	20	3	0	0	0	0	0	17	19	0	9	3	10	19	100
17	8	0	5	0	0	0	10	4	17	0	38	4	0	14	100
18	6	0	23	0	0	1	5	24	9	4	3	1	3	21	100
19	15	0	16	0	0	1	0	25	8	1	18	1	1	14	100
20	7	0	20	1	0	0	15	13	31	1	8	0	0	4	100
21	11	0	21	7	3	0	0	2	9	19	13	3	0	12	100
22	11	0	12	1	0	0	7	28	8	12	12	0	0	9	100
23	0	0	7	1	0	0	0	24	5	0	21	8	5	29	100
24	4	0	2	2	1	6	0	34	6	3	8	2	9	23	100
25	2	0	25	0	1	0	6	25	23	1	1	0	0	26	100
26	18	5	0	0	1	0	1	1	21	1	0	0	4	49	100
27	2	0	15	0	0	6	3	10	26	1	19	1	9	8	100
28	5	1	31	0	0	0	3	8	12	0	11	7	3	19	100
29	15	0	13	0	0	2	0	5	13	0	34	4	0	14	100
30	9	0	10	0	0	3	1	14	19	2	15	5	7	15	100
31	6	0	8	2	7	0	8	8	6	7	21	0	12	15	100
TOTAL	327	24	328	17	19	35	110	593	428	101	412	77	145	484	3100
%	1054	0.77	1058	0.55	0.61	1.12	354	19.12	13.80	3.25	13.29	2.48	4.67	15.61	100



TABLE NO. 38 M : PATTERN OF 'UNDIAGNOSABLE' ENTRIES (DUE TO INADEQUATE DETAILS IN RECORDS) IN RELATION TO SELECT SYMPTOMS IN CHW RECORDS

S. NO.	SYMPTOM	COMMUNITY HEALTH WORKERS																																%
		01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	TOTAL	
1	FEVER WITHOUT RIGOR	2	39	13	23	0	10	22	6	16	17	11	26	13	27	11	11	4	23	18	8	2	26	13	32	24	1	10	7	5	4	1	425	39.90(%)
2	COUGH	1	10	8	0	7	8	10	6	4	0	2	1	0	2	7	5	0	2	1	0	0	0	4	8	0	4	3	3	0	5	4	105	09.85(%)
3	LOOSE MOTIONS	0	2	1	2	1	2	10	4	6	2	0	2	5	0	7	0	2	3	0	12	10	1	1	2	1	0	1	1	0	0	0	78	07.32(%)
4	ABDOMINAL PAIN	3	16	6	0	0	11	8	21	3	5	0	1	3	3	5	1	7	1	3	1	0	9	0	2	1	3	1	2	7	5	0	128	12.00(%)
5	OTHERS	0	2	24	4	2	9	12	5	17	17	11	6	2	2	27	2	30	5	4	6	30	4	12	15	3	21	8	8	19	7	15	329	30.90(%)
	TOTAL	6	69	52	29	10	40	62	42	46	41	24	36	23	34	57	19	43	34	26	27	42	40	30	59	29	29	23	21	31	21	20	1065	100.00%

TABLE NO. 39 M : ILLNESS PROFILE IN CHW RECORDS

NO.	MALARIA	COLD	BACILLARY DYSENTERY	WORMS	AMOEBIIC DYSENTERY	HEAD-ACHE	FLU	ACID PEPTIC D.	FRESH WOUNDS	SORE THROAT	BRONCHI-TIS	ALLERGY	SCABIES	NIGHT BLINDNESS	MENTAL ILLNESS	BODYACHE	INFECTED WOUND	OTHERS	MIGRAINE	DIAR-RHOEA	UNDIAG-NOSED	OTHER	TOTAL
01	3	2	13	2	5	0	13	19	4	15	4	3	0	2	0	0	8	0	0	0	5	2	100
02	4	10	3	1	1	2	0	0	0	2	0	0	0	2	0	0	0	0	0	1	71	3	100
03	9	0	15	5	0	10	0	0	0	0	9	1	0	0	0	4	0	0	0	0	44	3	100
04	19	19	17	5	0	0	21	0	3	0	0	0	7	0	0	0	0	0	0	0	4	5	100
05	11	27	15	12	10	0	0	10	1	0	7	1	2	0	0	0	1	0	0	0	1	2	100
06	8	33	9	5	9	0	0	4	6	0	0	2	2	1	0	0	0	5	0	0	9	7	100
07	10	0	8	5	1	11	0	0	2	0	0	0	0	0	0	0	0	0	6	1	48	8	100
08	12	16	5	3	20	2	0	1	1	0	4	0	0	0	2	0	2	0	1	0	23	8	100
09	10	14	2	6	0	12	0	0	0	0	0	0	1	3	0	0	0	0	0	0	50	2	100
10	20	8	19	5	7	6	0	0	0	0	0	0	0	2	0	0	0	0	0	0	33	0	100
11	55	3	0	0	6	4	1	0	0	0	0	1	0	1	0	0	0	0	0	0	23	6	100
12	4	16	1	2	12	0	22	6	6	0	3	0	6	0	4	0	3	0	0	0	7	8	100
13	29	15	10	5	2	27	0	0	1	2	0	1	1	0	0	1	0	0	0	0	3	3	100
14	8	8	8	12	8	0	4	4	3	2	6	0	1	0	5	0	0	0	0	1	26	4	100
15	10	9	4	3	2	6	0	1	2	0	0	0	0	0	0	0	0	0	0	0	55	8	100
16	19	30	5	11	1	0	0	0	3	9	1	0	0	2	0	0	0	0	0	0	15	4	100
17	17	10	5	10	2	8	0	0	3	0	0	0	0	0	0	0	1	0	0	0	40	4	100
18	9	9	14	8	5	1	0	0	1	1	0	1	1	0	2	0	0	3	0	2	31	12	100
19	8	31	11	14	7	0	11	0	1	0	0	2	1	0	0	0	0	0	0	0	1	13	100
20	28	13	5	19	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	29	3	100
21	9	10	8	11	9	2	0	0	3	0	0	0	1	0	0	1	0	0	0	0	41	5	100
22	12	10	12	8	0	5	0	0	0	0	0	1	0	0	0	11	1	0	0	0	36	4	100
23	7	36	0	0	1	1	0	1	6	0	0	2	1	0	0	0	2	3	7	2	14	17	100
24	6	6	6	0	0	1	0	5	2	0	0	10	4	5	2	2	1	0	0	0	45	5	100
25	21	17	20	6	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	33	1	100
26	21	12	5	3	10	0	0	6	0	1	0	1	0	3	0	0	0	0	0	0	27	11	100
27	26	27	3	3	0	3	0	0	1	3	0	1	0	0	0	1	0	5	0	1	22	2	100
28	12	11	10	3	15	0	6	3	4	0	0	2	0	5	0	0	3	2	0	5	9	10	100
29	13	12	8	14	0	36	0	0	3	0	0	0	3	0	0	1	0	0	0	0	10	0	100
30	17	13	3	4	4	0	2	1	4	4	0	3	0	0	8	0	1	3	0	2	19	12	100
31	6	10	6	10	9	5	0	0	0	5	7	1	0	0	1	2	0	1	2	3	18	14	100
TOTAL	443	437	250	195	152	142	80	61	60	44	41	33	32	26	24	23	23	22	17	17	792	186	3100
%	14.2	14.0	8.0	6.2	4.9	4.5	2.5	1.9	1.9	1.4	1.2	1.0	1.0	0.8	0.7	0.7	0.7	0.7	0.5	0.5	25.5	6.0	100
* MIL : MENTAL STRESS IS CLASSIFIED HERE AS MENTAL ILLNESS.																							



TABLE 40 M - 1 : EVALUATION OF QUALITY OF TREATMENT  
BY CHWS

CHW NO.	WRONG	TANGIBLE	CORRECT	TOTAL
01	3	36	61	100
02	37	50	13	100
03	16	55	29	100
04	3	67	30	100
05	2	13	85	100
06	14	46	40	100
07	10	49	41	100
08	7	24	69	100
09	7	66	27	100
10	0	24	76	100
11	2	48	50	100
12	4	25	71	100
13	2	22	76	100
14	0	16	84	100
15	3	12	85	100
16	4	32	64	100
17	1	27	72	100
18	5	22	73	100
19	0	10	90	100
20	0	38	62	100
21	3	16	81	100
22	9	13	78	100
23	3	19	78	100
24	5	9	86	100
25	0	37	63	100
26	2	24	74	100
27	10	37	53	100
28	0	15	85	100
29	1	16	83	100
30	7	31	62	100
31	13	17	70	100
TOTAL	173	916	2011	3100
%	5.6	29.6	64.8	100

TABLE 40 M - 2 : EVALUATION OF QUALITY OF DIAGNOSIS  
BY CHWS

CHW NO.	WRONG	TANGIBLE	CORRECT	TOTAL
01	6	11	83	100
02	80	3	17	100
03	53	7	40	100
04	10	21	69	100
05	1	11	88	100
06	20	29	51	100
07	60	5	35	100
08	23	24	53	100
09	57	3	40	100
10	35	15	50	100
11	23	1	76	100
12	9	37	54	100
13	2	25	73	100
14	17	30	53	100
15	55	7	38	100
16	14	18	68	100
17	40	4	56	100
18	31	19	50	100
19	1	40	59	100
20	27	5	68	100
21	40	18	42	100
22	35	15	50	100
23	15	17	68	100
24	47	16	37	100
25	26	16	58	100
26	24	10	66	100
27	24	20	56	100
28	10	16	74	100
29	12	28	60	100
30	20	2	78	100
31	15	19	66	100
TOTAL	832	492	1776	3100
%	26.8	15.9	57.3	100

# ANNEXURE 1

## SYLLABUS OF CHW TRAINING PROGRAMME

### DAY SUBJECTS AND TOPICS

- 1 Arrival and introduction.
- 2 a) Introducing health care through herbs, b) A bird's eye view human body.
- 3 Orientation to health and ill health..diarrhoea etc..
- 4 Human body..cells, tissues, systems.
- 5 Human body..digestion and respiration.
- 6 Human body..other systems.
- 7 Nutrition..energy, proteins, requirements, malnutritions.
- 8 Causation of diseases.. immunity, inflammation etc..
- 9 Diagnosing illnesses, general approach, which diseases to treat and which to refer etc..
- 10 Principles of treating illnesses. Drug and non drug methods.
- 11 Modern pharmacology, how drugs work, ill effects. Select allopathic remedies (20 drugs ).
- 12 Eye, its diseases.
- 13 Holiday.
- 14 Ear, its diseases.
- 15 Childhood illnesses,...Introducing to other health workers from Vachan\* (afternoon).
- 16 Nutrition..some more topics\*..., Select topics (our own meals) with health workers\* (afternoon).
- 17 Pneumonia in childhood, respiratory system illnesses.
- 18 Examination of RS. (before noon)., Skin and wounds\* (afternoon).
- 19 Other respiratory illnesses, Tuberculosis. (before noon), Health education in a village \*
- 20 Skills required in village health care.
- 21 Other respiratory illnesses..(before noon), Skills..(afternoon).
- 22 Digestive system illnesses, Dental health, (before noon).. Discussion with a herbalist health worker from other project (afternoon)
- 23 Some herbal medicinal usage \*.
- 24 Digestive system illnesses.
- 25 Elementary care in womens' health \*.
- 26 Personal, domestic and Community health.
- 27 Examination (MCQs), testing skills (group method).
- 28 An introduction to Homeopathy and tissue remedies \*.
- 29 Discussion, Recapitulation, evaluation of training program.

\* Lists of topics covered by guest trainers.

A separate list of 'skills' for health workers, demonstrated in the training program is appended with this.



## ANNEXURE 2

### KNOWLEDGE, ATTITUDES AND SKILLS CHART FOR HEALTH WORKERS

SUBJECT	KNOWLEDGE	ATTITUDES AND BILEIFS	SKILLS
SECTION I - DISEASES			
1 FLU	Cause is viral. So no antibiotics needed. Pic-fever bodyache, URTI	No injections needed	Fever skills measurement, tepid sponging etc.
2 SORE THROAT	Diagnose is of throat inflammation	Adv. Home Remedies gargles.	Throat Examination
3 TONSILLITIS	Diagnosing tonsillitis, causes, Use of antibiotics	-----do-----	Throat examination, locating jugular nodes, identify pus flakes
4 BRONCHITIS	Causes of bronchitis, treatment with antibiotics and fluids.	Patient education. No Cough mixtures.	Demonstrate stdeam inhalation.
5 PNEUMONIA	Diagnosis of pneumonia, cause of pneumonia, referring severe cases.	Treat mild cases at home. Look out for ARI in children.	Count breaths, diagnose indrawing of chest and wheeze, grunts, convulsions.
6 INF-JAUNDICE	Cause is viral. How it spreads. No use of saline/ antibiotics. Use of herbal remedies. About white stools.	Patient education about saline, injectables, water hygiene, search for more cases.	Diagnose by yellow sclera, dark urine, Yellow froth of urine, tender liver.
7 TYPHOID	Bacterial cause. Suggestive clinical . picture. Seat of disease.	Early referral.	Check relatively 'slow' pulse, Detect palpable spleen.
8 DYSENTERY	Diagnose amoebic from bacterial, Medicines for each.	Look for cases and limit the spread. Health education for hand wash.	Naked eye examination of stools.
9 PUERPERAL FEVER	Diagnosis, pathology, consequences.	Early referral.	Pelvic examination.
10 LUNG TB	Cause is bacterial, symptoms in adults, symptoms in children, spread.	Be on lookout for cases. Look for child Cases. Maintain follow up.	Preparing and fixing sputum sample. disinfection of sputum.
11 ABSCESS	Cause, diagnosis	-----	Drain minor, pus collection.
12 MENINGITIS	Cause, diagnosis.	Be on the lookout for cases, referral.	Check neck rigidity.

SUBJECT	KNOWLEDGE	ATTITUDES AND BILEIFS	SKILLS
13 ENCEPHALITIS	Cause, diagnosis.	Watch out for cases. Referral.	Check neck rigidity.
14 URINARY TRACT INFECTION	Cause as per age / sex. Treatment. course of - Treatment.	Home remedies, complete Treatment (Gross Examination).	Check urine for turbidity
15 MALARIA	Diagnosis. treatment.	Look for cerebral malaria.	Taking blood smear.
16 FILARIASIS	Cause, diagnosis, treatment	Treat early.	Taking blood smear
SKIN CONDITIONS			
1 LEPROSY	Suspect cause. It is curable. Types.	Suspect patches and anesthesia. Look for contact cases.	Skin clip. Checking nerve involvement Detecting early trophic ulcers, foot care.
2 BOILS	Cause	Hygiene.	Draining abscess. Dressing.
3 INFECTED WOUND	Treatment	Herbal remedies. Look for LNodes. Clean wound.	Herbal remedies. Use aloe, neem. Dressing. Use of H2O2
4 LICE	Treatment	Health education for control / eradication. Use of Herbs.	Application of anti-lice remedies.
5 WOUNDS/CUTS	Process of healing.	Keeping wound clean, asepsis.	Clean wounds apposing edges by sticking plaster or stitching.
6 SCABIES	Differentiate between dry and infected scabies. Treatment.	Patient education about scabies control. Community drives for control.	Applying paint of G-BHC.
7 CHIKHALYA	Cause - fungal and bacterial treatment.	Pt education about hygiene.	Diagnose a patch.
8 RINGWORM	Cause, diagnosis, treatment.	-----	-----
9 CORNS	Corns.	Use of herbal remedies.	Preparing neem remedy.
10 ECZEMA	Causes, knowledge about infective element. Neem treatment.	Look for causes and Pt education.	Super chlorination.
11 ALLERGY	Diagnosis. Possible causes.	Well-sanitation. Health education	Staining water through layers of cloth.
12 GUINEA WORM	Cause, spread		



SUBJECT	KNOWLEDGE	ATTITUDES AND BELIEFS	SKILLS
13 ERUPTIONS / MEASLES DIARRHOEA / DYSENTERY	Diagnose early by Koplik Spots. course, viral cause.	Health education about beliefs.	Detection of Koplik spots. Identify at risk babies.
1 GASTROENTERITIS	Causes. Viral possibility. Dehydration. Feeding advice.	ORT. Health education.	ORT-Preparing from packet. ORT-Preparing home solutions.
2 CHOLESA	Cause, diagnosis, treatment principle.	Lookout for seasonal outbreaks.	I-V saline. Disinfection of well - water. -----do-----.
3 FOOD POISONING	Know possible causes	Health education about food hygiene.	-----do-----.
4 WORMS DIARRHOEA	Worm life cycles. Treatment, parasitic cough.	Health education for latrines, food hygiene, hygiene, hand wash.	Identifying worm - types by gross examination
6 GASTRITIS	Cause, diagnosis, treatment and don't's.	Sustained treatment, advising do's and dinettes'. Don'ts.	Localizing gastric pain.
7 ACUTE ABDOMEN	Diagnosis, causes and conditions.	Caution about abdominal pains.	Diagnose rigidity guarding, distension, check particular sites.
8 ASCITES	Diagnosis, causes.	Ask about alcoholism.	Finger tap test fluid thrill.
9 ABDOMINAL PAIN	Diagnosis, treatment, referral.	Caution.	Locating pain with organs.
10 CONSTIPATION	Causes. Common remedies.	Health education. Use of herbs.	Palpating areas 7 and No. 9. Preparing oil syringe.
11 VOMITING	Diagnosis, symptomatic treatment.	Always look for cause.	Giving position while vomiting.
RESPIRATORY			
12 COLDS	Viral cause, runs own course.	Conservative, health education.	'Nasya'. decongestion with saline water.
13 SINUSITIS	Diagnosis and treatment. Use of decongestants.	Complete treatment.	Tapping sinuses. Saline decongestion.
14 ASTHMA	Cause, diagnosis, treatment of mild cases.	Identify suitable drug follow up.	Diagnosis of asthma, ruling out heart murmurs, identifying status asthmaticus.
15 PLEURISY	Cause, diagnosis	Insisting on percussion.	Check dull note. Check air entry.

SUBJECT	KNOWLEDGE	ATTITUDES AND BELIEFS	SKILLS
16 SPRAIN (MUSCLE CATCH)	Diagnosis	Rule out fracture by palpation.	Palpation technique giving pressure bandage.
17 ANGINA	Cause, diagnosis, treatment.	Referring cases early.	BP measurement.
18 HIGH BLOOD PRESSURE	Suspect from leading symptoms BP range and limits, Threats.	Caution, check BP of at risk individuals.	
19 COUGHS	Cause, diagnosis, treatment	Find cause and achieve rational treatment.	Examination of respiratory system.
<b>EYE</b>			
1 CONJUNCTIVITIS	Causes, diagnosis, treatment.	Stop spread.	Using drops, detect corneal ulcer.
2 VISION PROBLEMS	Detection of types, effects.	Early diagnosis in school.	Testing vision. Use of Snellen's charts, finger counting.
3 STRABISMUS	Cause.	Early detection and referral.	
4 CATARACT	Causes, diagnosis cataract.	Health education for timely surgery, follow up.	Diagnosis of mature cataract. By 'shadow' test.
5 NIGHT-BLINDNESS	Cause, assess eye damage about vitamin A sources, about immediate treatment.	Health education About Vit A sources.	
6 GLAUCOMA	Clinical picture.	Early detection.	Diagnosis by finger pressure.
<b>EAR</b>			
1 FOREIGN BODY	Difference between vegetable and non-vegetable bodies. To use oil or not.	Safety precautions	Removal in older children.
2 ACUTE MIDDLE EAR INFECTION	Cause, diagnosis, treatment.	Early diagnosis, full treatment, Follow up.	Care of ear, view eardrum, use of H2O2 drops.
3 LOSS OF HEARING	Detecting loss early; about types.	Early referral.	The paper test. Tuning fork test.
4 WAX IN EAR	Cause	Caution against use of force.	Removal with softening drops; syringing.



SUBJECT	KNOWLEDGE	ATTITUDES AND BELIEFS	SKILLS
<b>TEETH AND MOUTH</b>			
1 TOOTHACHE	Assessing degree of damage, causes.	Health education about dental care.	Filling, scaling, correct brushing of teeth.
2 GINGIVITIS	Diagnosing cause, tartar if any.	Health Education.	Demonstrating dental care.
3 GLOSSITIS	Cause, diagnosis, treatment.	HE about tobacco, 'B' vitamin.	-----
4 ORAL CANCER	Diagnosis	Be on the lookout for cases.	Examination of mouth, tongue, for precancerous lesions HE about precancerous.
<b>NECK</b>			
1 GOITER	Diagnose toxic goiter and Iodine def. goitre.	Be on the lookout for cases.	Examination of thyroid and toxic signs.
2 CERVICAL TUBERCULOSIS	Diagnosis, cause, course.	Be on the lookout for cases.	Examination of cervical glands. Identify matting of LN.
<b>HAND AND FEET</b>			
1 FRACTURES	Detect by signs and symptoms	Try not to miss fractures in every possible situation.	Eliciting tenderness, detecting fragmentation by palpation. First aid splinting.
2 SPRAINS	Nature of injury.	Rule out fractures.	Supporting bandage.
3 ARTHRITIS	Diagnose type, senile, rheumatic, rheumatoid.	Health education. Look for rheumatic. Carditis in adolescents.	Examining joints and heart murmurs.
<b>URINARY</b>			
1 BURNING MICTURITION AND PUS IN URINE	Cause, diagnosis and treatment. other STDs. Enquire about spouse.	Think of gonorrhea. Look for other STDs.	Gross examination of urine for turbidity. Pelvic examination in women.
2 RENAL COLICS	Make a provisional diagnosis. Primary treatment.	Follow up.	Examination for abdominal diagnosis.
3 OLIGURIA	About Urine output, gravity of failing urine output.	Watch out for low urine output in at risk cases.	Measure urine volume.
4 RETENTION OF URINE	Cause of retention.		Hot sponging on bladder area. catheterizing.

SUBJECT	KNOWLEDGE	ATTITUDES AND BELIEFS	SKILLS
<b>FEMALE GENITAL TRACT</b>			
1 LEUCORRHOEA	Anatomy of vagina and internal genital organs.	Look for deeper cause, refer. Also examine husband.	Speculum examination. Bimanual examination. G.V. paint. Herbal remedies. Herbal.
2 DYSMENORRHOEA	Know type, treat with pain killers.	Not to dismiss as routine complaints. Health education about menstrual pain.	Examination of genital tract.
3 VAGINAL BLEEDING	Provisional diagnosis as related to menses / pregnancy / others.	High suspicion index for older patients with bleeding.	Examination of genital tract.
<b>OBSTRETICAL</b>			
1 PREGNANCY	Diagnosing pregnancy in early months. Identify risk factors. Normal pregnancy, Treatment of usual complaints.	Early referral of risk cases.	Abdominal examination for foetal lie, height, foetal heart sounds. Examination of BP, pallor.
2 CHILDBIRTH	Identifying risk factors, Understanding stages.	Safety, Asepsis.	Aseptic techniques, counting foetal heart sounds, perineal support Enema. Delivering baby. Holding baby, cleaning mouth, nostrils suction by catheter. Sucking throat. cord care. Checking placenta. Assess bleeding. Suture injury, wound care. Diagnose bad tears.
<b>NERVOUS SYSTEM</b>			
1 EPILEPSY	Cause and diagnosis.	Follow up, reassure.	Saving tongue.
2 BRAIN TUMORS	Understanding major neural symptoms, (weakness, paralysis, involuntary movements).		
3 RABIES / DOG BITE	Assess gravity of wound and risk of rabies. Role of first aid and vaccination.	Dog. control in the village. Health Education about risk.	Primary wound care, soap-wash.
4 POLIO	Early recognition, relation to injections.	Sustained care with expert help till Rehabilitation. Coverage of community with polio immunization. Cold chain consciousness. Avoiding injections in children avoid massage in painful stage.	Splinting and Physiotherapy.



SUBJECT	KNOWLEDGE	ATTITUDES AND BELIEFS	SKILLS
5 TETANUS	Cause of tetanus prevention - wound Management, T.T. dosage.	Wound cleanliness. Two dose schedule.	Administering T.T. injections.
PEDIATRICS			
1 DIARRHOEA	Cause, diagnosis, treatment.	Health education for ORT/feeds, no injections. Prevention of dehydration.	Prepare ORS detecting grade dehydration.
2 SORE THROAT TONSILLITIS	Cause, diagnosis, treatment. role of surgery.	HE about home remedies, indications for giving antibiotics.	Applying turmeric on tonsils. Checking throat for tonsils, jugular nodes.
3 WHOOPING COUGH	Cause and diagnosis.	Triple immunization coverage.	
4 MEASLES	Early diagnosis by Koplik spots. Fever treatment.	Health education.	
5 CHICKEN POX	Diagnosis by appearance.	-----	-----
6 MUMPS	Diagnosis by appearance.	Health education.	
7 MALNUTRITION	Diagnosing types of malnutrition feeding advice.	Sustained follow up. Health education. Helping AWWs.	Using arm-bands and weight charts for Detection of malnutrition. Preparing supplementary foods.
8 RICKETTS	Diagnosing early, treatment	Detecting in mild stages.	
BLOOD			
1 ANEMIA	Cause, diagnosis, treatment	Follow up. Health education about iron sources.	Hb estimation.
EMERGENCIES			
1 BURNS	Estimation of burnt surface, deciding about referral or home treatment.	First aid with water.	Wound care, Herbal treatment. Avoiding contractions.
2 SNAKEBITE	Signs and types poisoning. Logic of first aid measures. Identifying poisonous snakes.	Separating poisonous from non-poisonous bite. Health education about faith, preventive education.	Bleeding wound for removal of poison. Tourniquet. Suction of wounds/squeezing.
3 SCORPION STINGS	About lung edema in children.		Herbal treatment with drumstick gum.

SUBJECT	KNOWLEDGE	ATTITUDES AND BELIEFS	SKILLS
4 ELECTROCUTION	Nature of damage	H. education about avoiding shocks.	
5 INSECT BITES	Treatment.	-----	-----
OTHER ILLNESSES			
1 BODYACHE	Cause, treatment.	Do not dismiss as routine.	Knowledge of oil massage technique.
2 HEADACHE	Possible causes.	Avoid 'treatment without examination'.	-----
3 BACKACHE	Possible causes	Avoid 'treatment without examination'.	
4 WEAKNESS	Ascertain cause	As above.	
5 CANCERS	Knowledge about common cancers sites, (mouth, cervix, breast, larynx) and symptoms of each.	Health education in at-risk groups.	Examining mouth, breast, cervix for abnormal growths.
PSYCHIATRIC ILLNESS			
1 HYSTERIA	Diagnosis, ruling out organic causes.	Sympathy. No ridicule. Take family history.	Reassurance.
2 POSSESSION SYNDROME	Understanding social cause.	Education about causes of possession, Demystification.	
3 OTHERS	Identifying clues of major and minor psychic illnesses.	Perseverance and follow up.	
MALE GENITAL SYSTEM			
1 PHIMOSIS	Assess phimosis, refer if obstruction.	-----	Treating minor phimosis with massage and dilation.
2 BALANITIS	Diagnose cause, rule out diabetes in the elderly. Treatment with GV paint.	Ask about complaint in spouse. Treat both if necessary.	Urine examination for sugar.
3 HYDROCOELE HERNIA	Cause. diagnosis.	Demystification	Examination of testicles, swelling. Test of translucence, above the swelling.
4 UNDESCENDED TESTIS	The testicle tract. Advising about surgical opinion in time.	Examination for the condition in school children.	Examination of testicles.





SUBJECT	KNOWLEDGE	ATTITUDES AND BELIEFS	SKILLS
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OTHER AREAS  
ANATOMY AND PHYSIOLOGY

1	EVOLUTION OF MAN	Human beings are evolved from lower animals, and are still changing. Variation, inheritance, and selection are the mechanisms of evolution.	Not God but evolution created humans. Look at variation and inheritance in human race in a rational manner.
2	GENETICS	The chromosomes and genes. Girl or boy ? Some diseases can be genetically inherited.	Avoid intermarriages. Do not blame anyone for male/female progeny.
3	ORGANIZATION OF BODY	Cells are basic structural and functional units. Tissues are groups of like cells working together. Body system is a true federation of tissues carrying out a group of complementary functions.	Develop a critical attitude towards body. Visualize the whole as composed of subsystems. A view of separate body systems, working in unison, body itself is a federation of the systems.

4 FRAME AND  
LOCOMOTION

The regions of the skeletal frame head, neck, spine, the chest girdle and arms, the pelvic girdle and legs. The concept of bone structure, the strength, calcium deposits, types and functions of bone. Hollow bones and marrow. Concept of movement types at joints. Joint as a unit, capsule, synovial membrane and lubricating fluid. The voluntary muscle, tendon attachments the action of muscles. Opposite groups of muscles.

SYSTEMS DEALING WITH INTAKES

1 DIGESTIVE SYSTEM

The initial apparatus-mouth, tongue, teeth. parotids, throat and esophagus-carrying food to the stomach. The work of stomach -acid secretion, slurry of food. The sojourn of food in stomach. The stomach as a closed bag. The small intestines - the loops, villi and microvilli. Digestion and absorption of micronutrients. Difference between diarrhoea and dysentery. The colon functions.

SUBJECT	KNOWLEDGE	ATTITUDES AND BILEIFS	SKILLS
	Appendix - site. The accessory organs - liver, spleen, pancreas and their functions. How absorbed micronutrients are collected and treated in liver. The micronutrients levels in blood.		
2 RESPIRATORY SYSTEM	<p>The URT-nose, throat and larynx.</p> <p>The LRT-trachea, bronchi, bronchioles alveoli and their capillary system. The air pump - chest muscles and diaphragm dome.</p> <p>The air exchange-O<sub>2</sub>,CO<sub>2</sub>.</p> <p>The pleural cavity. The URT connections, sinuses, Eustachian tubes, Physiology of sneeze, cough, laryngeal spill and hiccoughs.</p> <p>The respiratory rate, tidal volume.</p>	-----	Mapping lung region. Normal and abnormal breath sounds.
SYSTEMS DEALING WITH INTERNAL TRANSPORT OF SUBSTANCES.			
1 BLOOD	<p>The composition of blood water, cells, substances -sugar, fats, minerals etc.</p> <p>The hemoglobin. Blood volume in body.</p> <p>O<sub>2</sub>, CO<sub>2</sub> transport at tissue end. The transport of defense apparatus. How bleeding is stopped-platelet plugs, capillary contraction, blood coagulation. The defense function of blood in immunity : white cells, globulins.</p>		Mapping of LN groups.
2 LYMPH	<p>How lymph is formed-seepages from capillary beds. Collection of blood - lymphatics. The lymph nodes. The lymph - vein connection. LN as defense systems.</p> <p>The heart and chambers and one way valves,heart beats. The heart to tissue flow - Arteries. The tissue to heart flow-Veins.</p> <p>The capillary bed.</p> <p>The pulmonary circulation. The body circulations. The concept of blood pressure. The positions of pulse.</p>	-----	Checking LN sites.
3 CIRCULATORY SYSTEM			Mapping heart area. Pulse positions. Visualizing major veins by tournique. Counting pulse. Measuring B. P.



SUBJECT	KNOWLEDGE	ATTITUDES AND BILEIFS	SKILLS
THE CONTROL SYSTEMS : NERVOUS SYSTEMS AND HORMONES.			
1 NERVOUS SYSTEM	<p>The central nervous system</p> <ul style="list-style-type: none"> <li>-Brain, spinal cord, basic functions and areas.</li> <li>-The peripheral N.S.fibers, nerves.</li> </ul> <p>Concept of sensory and motor nerves.</p> <ul style="list-style-type: none"> <li>-The autonomic N.S. exercising control of heart, lungs, guts, bladder etc.</li> <li>-The meninges, and C.S. fluid .</li> <li>-The senses - touch, vision, hearing, smell and taste.</li> </ul>		
2 HORMONES	<ul style="list-style-type: none"> <li>-The way hormones act.</li> <li>- Various hormones.</li> <li>-Deficiency states in brief.</li> </ul>		
3 EYE	<p>Basic anatomy of the human eye.</p> <p>Protection system-lids ,eyelashes, conjunctiva, tears, lacrimal apparatus.</p> <p>The lens system: cornea, pupil, lens, vitreous.</p> <p>The reception - Retina, nerve fibers, optic center.</p>		<ul style="list-style-type: none"> <li>- Examining cornea pupil light reflex.</li> <li>- Identify parts.</li> </ul>
4 EAR	<p>The External, middle and internal ear - anatomy, functions.</p> <p>The ENT connection -Eustachian tubes.</p>		<ul style="list-style-type: none"> <li>- Examining ear drum.</li> <li>- Test with tuning fork.</li> </ul>
THE PROTECTIVE SYSTEMS : SKIN, IMMUNE APPARATUS.			
1 SKIN	<p>Basic anatomy - cuticle, dermis, subdermal layer, regeneration of cells. Sweat glands, sebaceous gland, hair, nerves and muscles.</p>		
2 IMMUNE APPARATUS	<p>The cells and globulins. How the immune apparatus is trained. Nutrition and globulin levels.</p>		
3 KIDNEY URETER BLADDER	<p>The kidneys, ureters, bladder etc.</p> <p>The arrangement of kidneys, ureters, bladder and urethra. Filtration of urine from blood. Composition of urine.</p> <p>Optimum urinary functions.</p>		<p>Mapping KUB.</p> <p>Gross examination of urine.</p>

SUBJECT	KNOWLEDGE	ATTITUDES AND BILEIFS	SKILLS
4 THE MALE GENITAL SYSTEM	The sperm production and testicles. The sperm tract through scrotum and abdomen (prostate) and urethra. The penis - glans, caverns, foreskin. The sexual function of penis, erection and emptying.		Palpating -vas deference. Examining glans. Locating testicles in children.
5 THE FEMALE GENITAL SYSTEM	The birth passage - vagina, labia, clitoris, urethra. The uterus and tubes, Ovaries and ovum release. Hormones and MC. Pregnancy. Sexuality - clitoris, orgasms		Identify on a model various parts and ascribe functions. Mapping of female genital system on abdomen.
NUTRITION			
1 FOOD PRINCIPLES	Calories, proteins, vitamins, minerals, function and sources. Requirements of food principles. Deficiency diseases of vitamins/minerals. Concept of balanced diet. Malnutrition types. The socio-political problem of malnutrition. Nutrition programs. Food processing. Some nutritional hints.		Assessing nutrition practice demonstration in the village. Evaluation of family meals in forms of food principles as to get an idea of nutrition.
HOW DISEASES ARE CAUSED	-The disease triad ,agents ,host, environment . -Causes of diseases and levels of causes ;internal and external causes. -A classification of illnesses according to cause and system. -Inflammation. -Healing and Recovery. -Immunities -Active and Passive. -Infectious diseases ;classification by microbe types. -Control of infectious diseases, eradication. -The use of Antibiotics and anti-microbials.		
COMMUNITY HEALTH :			
1 DEFINITION L.C. DETERMINANTS OF HEALTH	- Living standard (purchasing power, housing, nutrition, education, culture) Water supply and sanitation. Health services. Occupational hazards.	Internalize a holistic approach to health care.	
2 WATER	Sources - Characteristics ground water and surface water. Contamination of water of domestic, community plants.	Maintaining cleanliness of water Importance of hand wash.	



SUBJECT	KNOWLEDGE	ATTITUDES AND BELIEFS	SKILLS
3 A CLEAN HOUSE	Cross ventilation, smokeless chulhas, soak pit, compost latrine, proper disposal of garbage, cattle shade, insect control.	Adopt smokeless chulhas, soak pit, latrines, separate cattle shade.	Making smokeless chulhas, soak pit. Demonstrate correct hand wash technique.
4 OCCUPATIONAL SAFETY	Special reference to agricultural occupational hazards.	Study occupational hazards and invent preventive steps.	
5 HEALTH SERVICES	Functions of PHCenters. Functions of a subcenter ANM and MPW. His/her own role and responsibilities. The truths about the average rural medical practitioner.	Study community health problems. Organize action.	
6 HFA 2000 GOALS	The practical goals of HFA program. The shortcomings of the HFA program.	Assume a positive and promotive attitude towards health - development.	
7 PH CARE	The operational elements of Primary health care. His/her own role and is the light of PH care.	See themselves as members of a community in health action; also perhaps a national program.	
8 THE VILLAGE HEALTH CARE	Components of village health care. Treating minor and moderate illnesses. Early detection and referral of serious illnesses, preventive promotive measures, health care and the herbs. Health Education.	Solve as many health problems as possible by comprehensive care.	
9 HEALTH INDICATOR	Causes of mortality and diseases in children and mothers. Morbidity indicators. Anthropometric parameters. Average birth weight. Availability of food.	Look at health events in a 'collective' manner.	Detect malnutrition by arm tape, weight chart.
10 THE SCIENCE OF PREVENTIVE MEDICINE	5 levels of prevention. Health promotion, Specific protection, Early diagnosis, prompt treatment, disability limitations, rehabilitation.	Develop a comprehensive attitude towards sickness management. Preventive action for preventable illnesses.	

SUBJECT	KNOWLEDGE	ATTITUDES AND BELIEFS	SKILLS
<b>DIAGNOSIS OF ILLNESSES</b>			
1 STEPS IN DIAGNOSIS	Information about symptoms, supporting details, history. Examination of patients.	Diagnose and treat illness rather than treat just symptoms.	
2 WHAT IS DIAGNOSIS ?	Defining cause, seat and probable course of disease.	Examine patients and make a diagnosis.	
3 SYMPTOMS	Symptoms that spread across systems and localized symptoms. Fever-cause, type, degree, system involved, diagnosis, pains-type of causes and treatment, Giddiness, Convulsions, breathlessness, weakness.	-----	Test fever by hand, Use thermometer, Fever strips, Tepid sponging, Use of diagnostic aids. Identify type of fever.
4 GENERAL EXAM	A Standard Gen Exam :eyes, mouth, tongue, nails, nodes, pulse, blood pressure looks, feet etc. reasons for doing it.	Perform Gen. Exam with a purpose every time.	Conduct general examination covering standard checklist.
14 DIAGNOSTIC TABLES/GUIDES	Use of flow chart, use of diagnostic table (ref. Bharatvaidyaka Manual). The significance of table codes (A,C,R,L). Differentiate between closely resembling illnesses.	Use diagnostic aids whenever occasion demands.	
15 CLASSIFICATION OF ILLNESSES BY FEASIBILITY	Rationale of feasibility classification, understanding simple, moderate, grievous illnesses and their own role in each category.	Mentally categorize illnesses and decide role.	
<b>ESSENTIAL PHARMACOLOGY</b>			
1 DRUG ACTION	Mechanism of drug action - local, systemic antimicrobial, supplementary, systemic body functions/ and vaccines.	Bear in mind what the drugs are expected to do.	Choose drugs in PHC.
2 THE UNDESIRE EFFECTS	Side effects, rare effects - adverse drug reaction. What to do. Anaphylactic reaction. Management.	Tell the patient about side effects, guard for ADR.	Treat an anaphylaxis reaction.
3 DYNAMICS OF DRUG IN THE HUMAN BODY	How drugs reach tissues. Factors deciding drug levels in binding with protein and fats, liver action, disposal	Follow correct dosage and schedule. Demystify injections.	



SUBJECT	KNOWLEDGE	ATTITUDES AND BELIEFS	SKILLS
4 DRUG FORMS	by kidneys. Time lag between pills and injections.  What is a tablet, capsule, powder, Ointment, mixture, syrup, liquid, drops, ampules, vials, infusion etc. Storage, Information on labels.	Understand that most oral medication is better than injectables in primary health care on technical grounds also.	Prepare labels in local languages.
5 THE DRUG BAZAAR	Concept of essential drugs, the primary health care list, the useless combinations, trade name and generic name, pricing of drugs, locost comparison. Banned and Bannable drugs. The problems due to drug abuse--Morbidity, mortality, teratogenicity, unnecessary drugging, ADR, costs.	Rational attitudes towards use of drugs.	
6 RIGHT THERAPEUTIC PRACTICES	Diagnose properly, treat rationally, adequately but economically, Look for ADR, Try to substitute with herbs.	Patient education.	
7 INJECTIONS/SALINES	Indications, Common abuse, advantages of oral medication/ORT, AIDS, jaundice and polio due to injections	Pt education and educate people about injections and salines.	Correct techniques for Im/SC/IV injections if necessary.
8 TONICS	What are tonics ? Costs, Inadequacy. Irrationality.	Discourage patients about Health Education are of from tonics.	
9 CLASSIFICATION OF DRUGS	GIT/RS/CS, analgesics, anti-pyretics, anti-bacterials, hormones supplements, urinary drugs, ENT, eye, anti-allergics, drug for skin etc.. Use drugs with a purpose Understand mechanism and site of action of drugs in PHC.		
10 PHC DRUG USE	Mode of action. Dose schedule - Adults/Children. Uses and indications, side effects and care, ADR and care, (List - Aspirin, Paracetamol etc. all 38 drug list).	Patient education about dose and side effects and correct period of treatment.	

SUBJECT		KNOWLEDGE	ATTITUDES AND BELIEFS	SKILLS
<b>AYURVEDA AND HERBS</b>				
1	THE THREE DOSHAS	Characteristics of three doshas, influence of doshas on illnesses.	Look for doshic element in persons / illnesses.	Doshic constitution. Doshic illnesses.
2	FOODS AND DOSHAS	Foods that increase and decrease doshas.	-----	Vomiting, catharsis, enemas, blood letting with leech for select conditions.
3	THE FIVE PURIFYING PROCEDURES	Vomiting, catharsis, enemas, nasal drops, blood letting.		
4	ILLNESSES FOR CARE AT HOME OR HERBAL TREATMENT	List includes 1 - 50 (to be prepared from morbidity list).	Try to treat as many illnesses as possible with local preparation.	
5	BASIC AYURVEDIC PREPARATIONS	Extract, decoction, paste, cold, extract, powders, tailas.	Develop preparation from local resources.	Preparing select herbal remedies.
6	COMMON HERBS FOR USE	Select 20/30 from your locality.	As above.	Identification of herbs, method of using herbs.

## SECTION II - PERSONAL HYGIENE

1	CLEANLINESS	Paring-Nails, Handwash - importance of these in disease prevention. Use of soap, ash.	About handwash habits and nail paring.	
2	DAILY BATH	Importance of bath in prevention of skin infection.	Daily bath.	
3	TEETH HYGIENE	The process of tooth decay and tartars, gingivitis. Role of brushing. Use of twigs. Local traditions and their impact on dental hygiene.	Cleaning teeth every morning, evening twigs and after meals. Look for dental hygiene in all patients, HED.	Correct use of twigs.
4	MENSTRUAL HYGIENE	Knowledge about using clean pads in menses. How to make pas at home.	Good personal practices and teaching other women.	
5	DIET	Knowledge about healthy food habits, balance diet. Importance of locally available food items. Greater needs in pregnancy and childhood. Deciding about	Changing family diet practices to healthier ones. H. ed of other families. Attention to iron, Vitamin A,B,C, proteins and fats.	



SUBJECT	KNOWLEDGE	ATTITUDES AND BELIEFS	SKILLS
6 DIETARY	<p>enough /less food. Knowledge about fasting practices as role in health.</p> <p>Seasonal changes in food habits - requirements. Staleness and its effects.</p>		
7 DEFECACTION	<p>Normal frequency of emptying bowels. Effects of constipation.</p> <p>Meaning of tenesmus. Role of dietary fiber. Pathogens in stools.</p> <p>Role of latrines and hand wash.</p>	<p>Self-profiles.</p> <p>Assessing profile of family members.</p> <p>Enquiring about emptying habits of patients.</p>	
8 SLEEP	<p>Healthy sleeping habits effects of early late rising on health; afternoon sleep etc.</p> <p>in Ayurvedic understanding.</p>		
9 SUBSTANCE ABUSE	<p>Effects of alcohol, tobacco consumption, smoking, Ganja (comnalis) cannabis.</p> <p>Stages of addiction.</p> <p>Ten tests for detecting mental</p> <p>Assessing patient</p> <p>(Ref. Bharatvaidyaka Manual).</p> <p>Major psychiatric disorders.</p> <p>Minor psychiatric disorders.</p> <p>Normal and abnormal behavior</p>	<p>Self assessment and steps for changes.</p>	
10 MENTAL ILLNESSES		<p>Self-reflection - see disorders objectively.</p> <p>Personalities.</p> <p>Understanding patients develop attitude of listening etc..</p>	

## ANNEXURE 3

### MULTIPLE CHOICE QUESTIONS : EXAM 1

- 1 How will you identify flu ?  
a) Fever and common cold.  
c) Fever, cold, cough and bodyache.  
b) Fever and cough.  
d) Cold and headache.
- 2 Flu is due to——.  
a) bacteria  
c) viruses  
b) allergy  
d) dust and pollution
- 3 —— is the treatment for flu.  
a) Cotrimoxazole  
c) CPM  
b) Tetracycline  
d) Aspirin or paracetamol
- 4 Many doctors give injections for flu for the reason——.  
a) injection is better than tablet  
c) it is something patients fancy and doctors thrive by  
b) injections completely cure flu  
d) tablets are of little effect in flu
- 5 The principal feature of pharyngitis (sore throat) is——.  
a) fever  
c) inflammation of throat  
b) cough  
d) fever and soreness of throat
- 6 A simple home remedy for sore throat is——.  
a) applying turmeric powder  
c) aspirin  
b) gargles with warm salt water  
d) either a or b.
- 7 If sore throat has started with cold, the illness can be due to——.  
a) bacteria  
c) viruses  
b) allergy  
d) any of a, b or c.
- 8 Tonsillitis is commonly due to——.  
a) bacteria  
c) allergy  
b) viruses  
d) microbes
- 9 The main cure of tonsillitis is——.  
a) removing tonsils  
c) reducing inflammation with aspirin  
b) anti-bacterial drugs  
d) warm saline gargles
- 10 Acute bronchitis is commonly due to——.  
a) bacteria or viruses  
c) pollution  
b) smoking  
d) worms
- 11 Acute bronchitis can be diagnosed by——.  
a) initial dry cough, fever, mild midline chest pain  
c) productive cough  
b) fever and croup  
d) breathlessness
- 12 Chronic bronchitis is commonly because of——.  
a) bacterial  
c) smoking  
b) viruses  
d) asthma



- 13 Pneumonia is an illness of \_\_\_\_\_.  
a) abdomen  
c) lungs  
b) chest  
d) throat
- 14 A principal cause of pneumonia is \_\_\_\_\_.  
a) viruses  
c) tuberculosis  
b) bacterial  
d) evil spirits
- 15 How is pneumonia identified?  
a) Fever and breathlessness.  
c) Cough and asthma.  
b) Cough and fever.  
d) Fever and chest pain.
- 16 Indrawing of chest \_\_\_\_\_ is an important sign of bad pneumonia in the child.  
a) in expiration  
c) in between breathing in and breathing out  
b) in inspiration  
d) occasionally
- 17 The grunting in pneumonia is observed \_\_\_\_\_.  
a) in expiration  
c) in between expiration and inspiration  
b) in inspiration  
d) occasionally
- 18 Children with pneumonia should immediately treated with \_\_\_\_\_.  
a) paracetamol  
c) cotrimoxazole  
b) any cough mixture  
d) salbutamol
- 19 In pneumonia, \_\_\_\_\_ should warrant us to refer the child immediately.  
a) high fever  
c) breathlessness  
b) convulsions, malnutrition or loss of consciousness  
d) refusal to feed
- 20 Infectious jaundice (hepatitis) is due to \_\_\_\_\_.  
a) poisonous substances  
c) bacteria  
b) viruses  
d) alcohol
- 21 \_\_\_\_\_ is of no use in treating infectious hepatitis.  
a) Cotrimoxazole  
c) Bhuiamalki  
b) Castor leaves  
d) Paracetamol
- 22 Infusion of saline in infectious hepatitis is \_\_\_\_\_.  
a) injurious  
c) unnecessary  
b) beneficial  
d) harmless
- 23 Infectious hepatitis spreads by \_\_\_\_\_.  
a) contaminated food and water  
c) contaminated injections / syringes / needles  
b) contaminated air  
d) contaminated food, water and injections
- 24 \_\_\_\_\_ found in infectious hepatitis is a bad development.  
a) White stools  
c) Unconsciousness  
b) Changed rhythm of sleep  
d) Any of a, b or c.
- 25 After contact with contaminated food / water, infectious hepatitis will manifest in about \_\_\_\_\_.  
a) 2 days  
c) few weeks  
b) 7 days  
d) one year
- 26 Typhoid fever is usually diagnosed late but \_\_\_\_\_ should alert us to send the patient to doctors assuming it is typhoid.  
a) continuous high fever and relatively slow pulse  
c) fever and loose motions  
b) fever and abdominal pain  
d) fever with rigors

- 27 ——— causes typhoid fever.  
a) Fungal infection  
b) Viruses  
c) Worms  
d) Bacteria
- 28 Typhoid spreads by ———.  
a) air  
b) water  
c) food and water  
d) physical contact
- 29 Typhoid germs are mainly localized in ———.  
a) liver  
b) spleen  
c) small intestine  
d) brain
- 30 Typhoid illness is ———.  
a) mild  
b) serious  
c) worth treating in the village with due caution  
d) self limiting
- 31 To identify amoebic dysentery ——— is crucial.  
a) abdominal pain and mucous  
b) only blood and mucous  
c) abdominal pain and mucoid stools  
d) fever and loose motions
- 32 To identify bacterial dysentery ——— is crucial.  
a) only blood and mucous  
b) foul smell and frothy motions  
c) only mucous or blood with mucous  
d) abdominal pain and loose motions
- 33 Amoebic dysentery is usually associated with ———.  
a) high fever  
b) no fever  
c) less fever  
d) fever limited to abdomen only
- 34 The treatment for bacterial dysentery in adults is ———.  
a) furazolidine  
b) cotrimoxazole  
c) tetracycline  
d) a, b or c.
- 35 Purpereal sepsis is ———.  
a) infection of uterus after childbirth  
b) edema of feet in pregnancy  
c) convulsions in childbirth  
d) obstructed delivery
- 36 Since (i) ——— is the cause of purpereal sepsis, (ii) ——— is the treatment of choice.  
a) (i) viruses (ii) tetracycline  
b) (i) bacteria (ii) anti-bacterials  
c) (i) bacteria (ii) metronidazole  
d) (i) bacteria (ii) aspirin
- 37 Purpereal sepsis is an illness of ——— type.  
a) acute serious  
b) chronic serious  
c) mild  
d) moderate
- 38 The main features of purpereal sepsis are ———.  
a) high fever and convulsions  
b) high fever, foul smelling vaginal discharge and abdominal pain  
c) stoppage of urine  
d) blood colored vaginal discharge for many days
- 39 Lung tuberculosis causes ———.  
a) high fever  
b) moderate fever  
c) low fever  
d) fever with rigors
- 40 The immediate cause of lung tuberculosis is ———.  
a) bacteria  
b) smoking  
c) viruses  
d) malnutrition



- 41 The main features of lung tuberculosis are \_\_\_\_\_.  
 a) fever, sputum in cough and weight loss      b) blood in expectoration (coughed out sputum) and fever  
 c) chest pain      d) breathlessness and fever
- 42 The proportion of open and hidden cases together, of lung tuberculosis in the village is about \_\_\_\_\_.  
 a) 1 in thousand population      b) 3 in thousand population  
 c) 1 in hundred      d) 3 in hundred
- 43 In childhood tuberculosis (primary complex) \_\_\_\_\_ is often the first warning.  
 a) cough      b) fever and growth failure  
 c) meningitis      d) fever and breathlessness
- 44 With BCG immunization \_\_\_\_\_.  
 a) tuberculosis is completely prevented      b) the proportion and gravity of tuberculosis is less  
 c) axillary lymph nodes always swell up      d) tuberculosis is cured
- 45 A certain clue to secondary (adult) tuberculosis is \_\_\_\_\_.  
 a) finding tubercle bacilli in the sputum examination      b) a lesion found in chest X-ray  
 c) a TT test with more than 10 mm flare up      d) None of a, b or c.
- 46 Absence of tubercle bacilli in sputum implies \_\_\_\_\_.  
 a) that the patient is not suffering from tuberculous      b) there is no cause for fear even if the patient has tuberculosis  
 c) it is better to confirm in the light repeat sputum test of X-ray chest and physical check up      d) that atleast it is not lung tuberculosis in any case
- 47 That tuberculosis is an illness of adults and not children is \_\_\_\_\_.  
 a) true      b) not true  
 c) true in a large measure      d) only somewhat true
- 48 Tuberculosis of organs other than that of lungs is \_\_\_\_\_.  
 a) less bothersome      b) more troublesome  
 c) relatively simple      d) not very different
- 49 Tuberculosis spreads by \_\_\_\_\_.  
 a) breath      b) contaminated food and water  
 c) skin contact      d) sexual contacts
- 50 The primary cause of tuberculosis is \_\_\_\_\_.  
 a) bacteria      b) lack of cleanliness  
 c) poverty      d) ignorance
- 51 The cause of any pus is \_\_\_\_\_.  
 a) lack of cleanliness      b) a type of bacterium  
 c) viruses      d) bad blood
- 52 Once pus is formed, the only cure is \_\_\_\_\_.  
 a) antibiotic drugs      b) removal of pus  
 c) tight bandage      d) allow it to burst open
- 53 In conditions with pus, \_\_\_\_\_ germs are likely to thrive.  
 a) fungal      b) tetanus  
 c) any      d) viral

- 54 Pus filled sites have a typical —— pain.  
 a) burning  
 c) throbbing  
 b) spasmodic  
 d) dull aching
- 55 Acute middle ear infection is likely to lead to a dangerous condition like ——.  
 a) deafness  
 c) pneumonia  
 b) meningitis  
 d) None of a, b or c.
- 56 How to recognize meningitis ?  
 a) Fever and vomiting.  
 c) Unconsciousness and fever.  
 b) Fever, change in speech and behavior, neck rigidity.  
 d) Fever, turning of eyeballs.
- 57 Urinary tract infection can be identified by ——.  
 a) fever and burning micturition  
 c) fever and blood in urine  
 b) fever and turbid urine  
 d) fever and pain in lower abdomen
- 58 Urinary tract infection is commoner in women because ——.  
 a) the female urethra opens near the vaginal orifice  
 c) both a and b  
 b) the female urethra is shorter than male urethra  
 d) neither a nor b.
- 59 The commonest cause of urinary tract infection in adult males is ——.  
 a) sexually transmitted infections  
 c) diabetes  
 b) lack of cleanliness  
 d) None of a, b or c.
- 60 Treatment of urinary tract infection is essentially ——.  
 a) cotrimoxazole  
 c) aspirin or paracetamol  
 b) drinking cold water  
 d) either cotrimoxazole or metronidazole
- 61 Malaria is caused by ——.  
 a) unicellular parasites  
 c) viruses  
 b) bacteria  
 d) urinary infection
- 62 The mosquitoes of malaria thrive in ——.  
 a) ponds of dirty water  
 c) streams  
 b) ponds of clean water, irrigation water  
 d) any water
- 63 When a mosquito, after biting a malaria patient immediately bites a new person; ——.  
 a) the second person will soon suffer from malaria  
 c) the second person will suffer from malaria after about 10 days  
 b) nothing will happen to the latter  
 d) the second person will suffer from malaria after 20 days
- 64 To control mosquito population, ——.  
 a) disposal of sullage (domestic waste water) and proper management of irrigation (avoiding formation of ponds) is crucial  
 c) frequent insecticide sprays are mandatory  
 b) mosquito nets are indispensable  
 d) fumigation is important
- 65 The treatment of malaria with chloroquine needs —— days' period.  
 a) 1  
 c) 3  
 b) 2  
 d) 4
- 66 In malaria, features of brain involvement are ——.  
 a) never found  
 b) attributable to vivax type malaria



- c) attributable to falciparum malaria      d) quite common
- 67 After starting chloroquine for treating malaria, ———.
- a) fever subsides the same day      b) fever takes 10 days to subside
- c) fever generally takes 2 days to subside      d) fever stops after 3 days
- 68 In children under 2 years, malaria may manifest even as ——— apart from fever with chills.
- a) cough      b) cold
- c) cough and cold      d) headache
- 69 Malaria in pregnant women, ———.
- a) should be treated with chloroquine as usual      b) can not be treated with chloroquine since this drug is unsafe in pregnancy
- c) should be treated only with paracetamol      d) can not be treated with any drug
- 70 The germs of malaria affect mainly the ———.
- a) spleen      b) red blood cells
- c) white blood cells      d) liver
- 71 The best clue for early detection of leprosy is ———.
- a) non-itching patch on skin, which may or may not be anesthetic      b) non-healing ulcer
- c) disfigurement of nose and fingers      d) deformities in limbs
- 72 Infectious leprosy ——— as compared to non-infectious leprosy.
- a) is usually detected earlier      b) is usually detected later
- c) is cured earlier      d) spreads late
- 73 The skin patch of infectious leprosy is ———.
- a) flat, pale and without sensation      b) flat, pale with preserved sensations
- c) raised, thick and without sensation      d) raised, thick and with sensation
- 74 The skin patches of non-infectious leprosy are without sensations because ———.
- a) leprosy bacteria damage skin cells      b) leprosy bacteria destroy the hair and sweat glands of skin
- c) leprosy bacteria damage nerve fibers      d) the skin is thickened
- 75 In the skin patches of non-infectious leprosy ———.
- a) a few leprosy bacilli are commonly found      b) leprosy bacilli are usually absent
- c) there are plenty of leprosy bacilli      d) dead bacilli are commonly found
- 76 In the infective type of leprosy, the limbs show ———.
- a) early deformities      b) late deformities
- c) ulcers in late stage of the disease      d) no deformities
- 77 If one of the spouses has leprosy, the other spouse ———.
- a) surely contracts leprosy sooner or later      b) does not suffer from the disease
- c) has a small possibility of contacting the disease      d) getting the disease is a totally unpredictable thing
- 78 If one of the parents has leprosy, the child ———.
- a) will suffer from the illness since it is hereditary      b) getting the disease depends entirely on the specific immunity of the child
- c) usually escapes the disease as children hardly ever suffer from this disease      d) will get the disease even in isolation from parents
- 79 The ulcers on soles of feet in leprosy are caused ———.
- a) by leprosy germs      b) without any specific cause
- c) by nerve damage      d) by walking barefeet





- 93 Measles is mainly a disease of —— system.  
 a) skin  
 b) blood  
 c) respiratory  
 d) abdominal
- 94 —— is the medicine for measles.  
 a) Aspirin  
 b) Paracetamol  
 c) Cotrimoxazole  
 d) Intravenous saline
- 95 The complications of measles include ——.  
 a) encephalitis  
 b) pneumonia  
 c) flaring of tuberculosis  
 d) any of a, b or c.
- 96 Mumps striking in post-adolescent age may cause ——.  
 a) tuberculosis  
 b) pneumonia  
 c) sterility  
 d) blindness
- 97 The main difference between measles and chicken pox is ——.  
 a) the rash of measles is like mustard seeds while that of chicken pox is larger and full of thick white fluid  
 b) measles rash affects only face while chicken pox affects mainly upper limbs  
 c) measles rash appears only in one crop on the entire body while chicken pox rash comes in successive crops  
 d) measles rash is slightly larger than that of chicken pox
- 98 Aspirin is not to be given in children with measles or chicken pox because ——.  
 a) there is no abatement in fever in these conditions  
 b) there is risk of the child becoming unconscious  
 c) viruses are not affected by aspirin  
 d) there is no particular need of aspirin
- 99 Watery loose motions are generally a disease of ——.  
 a) large intestine  
 b) small intestine  
 c) stomach  
 d) all a and c
- 100 If there is blood and mucous alone or just semi-fluid / semi-solid motions, then the —— is likely to have been affected.  
 a) anus  
 b) small intestine  
 c) large intestine  
 d) appendix
- 101 Apart from bacteria and viruses, there are other causes like —— for diarrhea / dysentery.  
 a) amoeba - giardia, indigestion, allergy and acidity in stomach  
 b) amoeba - giardia, indigestion, allergy and jaundice - hepatitis  
 c) allergy, amoeba - giardia, indigestion, food poisoning and worms  
 d) allergy, food poisoning, vomiting and intestinal obstruction.
- 102 In children diarrhea can also be caused by non-bacterial factors like ——.  
 a) viruses, allergy, indigestion, hepatitis  
 b) viruses, teething, allergy, indigestion and respiratory infection  
 c) viruses, teething, viral colds  
 d) viruses and bacilli
- 103 An important clue to identify amoebic dysentery in all except children is the occurrence of ——.  
 a) only blood and mucous without stools  
 b) only mucous without stools  
 c) frequent stools with mucous  
 d) abdominal pain of the writhing type
- 104 The greenish frothy motions in children are mostly due to ——.  
 a) bacteria  
 b) viruses  
 c) amoeba - giardia  
 d) worms

- 105 Tenesmus (incomplete emptying of bowels) is mostly because of \_\_\_\_\_.  
 a) worms  
 b) amoeba  
 c) giardia  
 d) habits
- 106 Except cholera, many bacterial infections of gut present as \_\_\_\_\_.  
 a) indigestion  
 b) frothy motions  
 c) watery motions  
 d) blood / mucous
- 107 The most important thing in childhood diarrhea is \_\_\_\_\_.  
 a) stopping motions  
 b) starting intravenous drip  
 c) starting oral rehydration to avoid dehydration  
 d) sending the child to a doctor immediately
- 108 The correct formula for preparing one liter of oral rehydration solution is \_\_\_\_\_.  
 a) 1 handfull of sugar + salt in 3 finger pinch + baking soda in 2 finger pinch  
 b) 2 handfulls of sugar + salt in 3 finger pinch + baking soda in 2 finger pinch  
 c) handful of sugar + a pinch of salt + a pinch of soda  
 d) handful of sugar + a lemon (juice) + a spoonful of salt
- 109 One can choose a drug from group \_\_\_\_\_ from the following drugs in bacillary dysentery.  
 a) cotrimoxazole, furazolidine, metronidazole  
 b) cotrimoxazole, metronidazole, tetracycline  
 c) furazolidine, cotrimoxazole, tetracycline  
 d) tetracycline, metronidazole, furazolidine
- 110 If a baby is vomiting, the mother must \_\_\_\_\_.  
 a) stop breast-feeding  
 b) stop breast-feeding only if the baby is allergic to the breastmilk  
 c) continue breast-feeding but stop top feeds  
 d) continue top feeds but stop breast-feeding
- 111 If several people simultaneously suffer from loose motions and vomiting, the possibility in this case is \_\_\_\_\_.  
 a) cholera or gastroenteritis or food poisoning  
 b) food poisoning  
 c) food poisoning or cholera  
 d) viral diarrheas
- 112 If several people start vomiting and passing loose motions within about one hour of a ceremonial meal, one must think of \_\_\_\_\_ first.  
 a) bad cooking pots  
 b) unclean water  
 c) allowing passage of time after cooking rice before serving it  
 d) a lizard in the cooking pot
- 113 Chronic but occasional pain around umbilicus (navel) is commonly because of \_\_\_\_\_.  
 a) a calculus (stone) in the urinary system  
 b) hepatitis - jaundice  
 c) worms  
 d) chronic amoebiasis
- 114 Intestinal worms spread due to \_\_\_\_\_.  
 a) contaminated food, water and fingers  
 b) contaminated air, water and food  
 c) habitual eating of sweets and condiments  
 d) walking barefoot
- 115 Children scratching around the anus at night hours are likely to be suffering from \_\_\_\_\_.  
 a) ringworm  
 b) lice  
 c) worms  
 d) allergy
- 116 Thread worms are of the size of \_\_\_\_\_.  
 a) several feet  
 b) six inches  
 c) the length of the small finger  
 d) sprouts of grains
- 117 The most important measure against worms is \_\_\_\_\_.  
 a) use of footwear  
 b) disinfection of water  
 c) construction of latrines  
 d) handwash with soap or ash before meals





- 131 If a patient of intestinal obstruction is not treated, there can be death within \_\_\_\_\_.  
 a) 2 hours  
 b) 24 hours  
 c) 1 or 2 days  
 d) 1 week
- 132 The important causes of intestinal obstruction are \_\_\_\_\_.  
 a) worms, hernia, twisting of intestines, peptic ulcer  
 b) hernia, telescoping of the intestinal loops, twisting of intestine, worms  
 c) worms, typhoid, hernia  
 d) worms, cancer, appendicitis
- 133 Acute peritonitis is \_\_\_\_\_.  
 a) inflammation of intestines  
 b) inflammation of the coverings of intestines  
 c) collection of fluid in abdomen  
 d) bursting of peptic ulcer
- 134 In case of peritonitis the pain \_\_\_\_\_.  
 a) is all over the abdomen  
 b) localizes at the site of appendix  
 c) is intermittent  
 d) shifting from place to place in the abdomen
- 135 If intestinal obstruction or peritonitis is suspected to be the illness, the patient should \_\_\_\_\_.  
 a) receive nothing by mouth  
 b) receive oral rehydration solution  
 c) be made to vomit  
 d) be given rectal enema
- 136 Combination of high fever with vomiting suggests \_\_\_\_ illnesses.  
 a) meningitis / encephalitis, hepatitis, kidney disease  
 b) pregnancy, appendicitis  
 c) hepatitis, malaria  
 d) cholera, food poisoning
- 137 Vomiting associated with convulsions is likely to be due to \_\_\_\_\_.  
 a) tetanus  
 b) a brain illness or snakebite  
 c) intestinal obstruction or snakebite  
 d) a mental illness
- 138 Sinusitis is caused by \_\_\_\_\_.  
 a) passage of germs through the eustachian tube  
 b) passing of infection from the nose  
 c) chilly weather  
 d) closure of sinus openings in colds
- 139 The most important feature of sinusitis is \_\_\_\_\_.  
 a) tenderness on sinuses  
 b) yellow discharge from the nose  
 c) fever and headache  
 d) migraine
- 140 The treatment for sinusitis is \_\_\_\_\_.  
 a) cotrimoxazole and tetracycline  
 b) cotrimoxazole and aspirin  
 c) cotrimoxazole, aspirin and nasal decongestion  
 d) cotrimoxazole and nasal decongestion
- 141 In bronchial asthma \_\_\_\_\_.  
 a) bronchi are dilated  
 b) bronchi are contracted and narrow  
 c) alveoli are affected more than the bronchi  
 d) there is an inflammation of lungs due to bacteria
- 142 The diagnosis of bronchial asthma banks on \_\_\_\_\_.  
 a) breathlessness and rhonchi on examination by stethoscope  
 b) breathlessness and crepes in chest  
 c) breathlessness and fever  
 d) breathlessness and cough
- 143 The treatment for asthma is \_\_\_\_\_.  
 a) aminophylline or salbutamol tablets  
 b) cotrimoxazole or aspirin  
 c) cotrimoxazole and cough syrups  
 d) aminophylline and cotrimoxazole



- 144 Fluid collection in chest really means——.  
 a) fluid in lungs  
 c) collection of fluid in lungs because of tuberculosis  
 b) fluid in the bag around lungs  
 d) inflammation of the heart
- 145 Pleurisy (fluid in chest) is commonly caused by——.  
 a) tuberculosis  
 c) spilling of tuberculous pus from the lungs into the chest cavity  
 b) germs other than tuberculosis  
 d) bronchial asthma
- 146 Diagnosis of pleurisy banks upon——.  
 a) crepitations and a resonant note on the chest  
 c) a hollow note on percussion and reduced breath sounds in that region  
 b) a dull note on percussion and absence of breath sounds in that region  
 d) reduced breathsounds and crepitations on examination with stethoscope
- 147 Ascitis is commonly caused by——.  
 a) abdominal pain  
 c) tobacco  
 b) alcohol  
 d) alcohol or viral hepatitis
- 148 Abdominal pain below the right lower rib implies illnesses of——.  
 a) liver or gallbladder  
 c) spleen  
 b) stomach and large intestine  
 d) kidney
- 149 Abdominal pain below the left lower ribs implies illnesses of——.  
 a) heart  
 c) spleen  
 b) stomach  
 d) kidney
- 150 Abdominal pain in the region (No. 2) above the navel (umbilicus) implies an illness of——.  
 a) small intestine  
 c) stomach  
 b) spleen  
 d) liver and gallbladder
- 151 Pain in the right lower corner (No. 7) of abdomen implies illnesses of——.  
 a) uterus and urinary bladder  
 c) appendix, right fallopian tube and first part of large bowel  
 b) urinary bladder, appendix  
 d) large intestine (first section), left fallopian tube
- 152 Pain below the navel suggests illnesses of——.  
 a) small intestine  
 c) small intestine or kidneys  
 b) small intestine or pancreas  
 d) large intestine
- 153 Right kidney illnesses will be associated with a pain in the region——.  
 a) section No. 4 and 5 (right of the navel)  
 c) section No. 6 and 5 (left to the navel)  
 b) section No. 1 (below the right lower rib)  
 d) section No. 5 and 8 (below the navel)
- 154 A distended urinary bladder will be seen in——.  
 a) region below the navel  
 c) above the umbilicus  
 b) the region around navel  
 d) besides the navel
- 155 The pain of ectopic pregnancy will be felt in—— of abdomen.  
 a) section No. 7 or 8 or 9  
 c) section No. 8 or 9  
 b) section No. 7 or 8  
 d) only section No. 8
- 156 Intermittent crying in babies is suggestive of——.  
 a) hunger, constipation or abdominal pain  
 c) throat pain  
 b) earache  
 d) fracture

- 157 — suggests pleural effusion.  
 a) Fever, cough and breathlessness  
 c) Fever, breathlessness and productive cough  
 b) Fever, chest pain and breathlessness  
 d) Low fever and cough
- 158 A joint sprain differs from a fracture in that —.  
 a) a sprained joint swells up while fracture does not  
 c) fracture is attended by swelling but not so a sprained joint  
 b) fracture is very tender while a sprained joint is not so  
 d) None of a, b or c.
- 159 A joint sprain is essentially a —.  
 a) injury to the bones in the joint  
 c) excessive stretching of joint capsule  
 b) bleeding in the joint  
 d) stretching the muscles of the joint
- 160 The pain of angina (cardiac pain) is due to —.  
 a) less blood supply to the heart muscle  
 c) damage to heart valves  
 b) pressure on the heart  
 d) stoppage of heart beating
- 161 The cardiac pain typically —.  
 a) arises in the right part of the chest and goes to the left arm  
 c) occurs in the central part of chest  
 b) arises in left of the chest and travels towards left arm  
 d) is usually like heartburn
- 162 High blood pressure may lead to —.  
 a) bleeding in brain or heart attack  
 c) chest illness  
 b) damage to lungs  
 d) damage to joints
- 163 Symptoms such as — seen in persons in their forties demand that the blood pressure be examined.  
 a) giddiness, blackouts, palpitation  
 c) joint pains and giddiness  
 b) fast pulse  
 d) swollen feet and headaches
- 164 Cough is essentially —.  
 a) a major disease of respiratory system  
 c) a major sign of respiratory illnesses  
 b) a major symptom of respiratory illnesses  
 d) a symptom of the upper respiratory illnesses
- 165 Cough mixtures can —.  
 a) cure any coughs  
 c) cure only productive cough  
 b) cure only dry cough  
 d) not cure the root cause of cough
- 166 — are the illnesses are possible if there is dry cough.  
 a) Sore throat, laryngitis, pneumonia  
 c) Sore throat, laryngitis, bronchitis  
 b) Pneumonia, tuberculosis, asthma  
 d) Laryngitis or sore throat
- 167 Productive cough should arouse the suspicion of —.  
 a) chronic bronchitis, tuberculosis, cancer of lungs or late stage of pneumonia  
 c) early pneumonia, tuberculosis  
 b) tuberculosis, laryngitis or bronchitis  
 d) cancer of throat or early bronchitis
- 168 Blood and sputum in cough should arouse suspicion of —.  
 a) pneumonia (late stage), tuberculosis, cancer of lungs, bronchitis  
 c) pneumonia (late stage), cancer of lungs, tuberculosis  
 b) tuberculosis, pleural effusion, lung cancer  
 d) parasitic cough or heart attack
- 169 Productive cough is essentially —.  
 a) an upper respiratory disease condition  
 c) dry cough  
 b) due to illnesses of alveoli and bronchial system  
 d) long standing cough



- 170 Chronic cough and weight loss suggest——.  
 a) tuberculosis or laryngitis  
 b) tuberculosis or cancer of lungs  
 c) only tuberculosis or pleurisy  
 d) cancers anywhere in the body
- 171 Breathlessness with cough is always associated with——.  
 a) asthma, heart disease  
 b) asthma, pneumonia  
 c) tuberculosis, asthma  
 d) tuberculosis, pneumonia
- 172 The cough of pneumonia typically is——.  
 a) in the initial stage  
 b) in the late stage  
 c) throughout the illness  
 d) only occasional
- 173 Dry cough should be treated with—— if troublesome.  
 a) cough mixture  
 b) cotrimoxazole  
 c) codeine  
 d) paracetamol
- 174 The difference between pneumonia and tuberculosis is——.  
 a) pneumonia is an infection but not so tuberculosis  
 b) pneumonia is a slow growing illness  
 c) tuberculosis is a slow growing illness  
 d) pneumonia is an abdominal disease while tuberculosis is located in the chest
- 175 Sore eyes is a disease of——.  
 a) cornea  
 b) conjunctive  
 c) the lacrimal apparatus  
 d) retina
- 176 Sore eyes are commonly caused by——.  
 a) germs  
 b) germs or allergy  
 c) viruses  
 d) foreign body in the eye
- 177 Sore eyes in the newborn baby are due to——.  
 a) germs in the birth passage  
 b) germs contacted through baby baths  
 c) sunlight  
 d) allergy
- 178 Eye drops for sore eyes have to be instilled 7 - 8 times a day because——.  
 a) eye drops are less potent than ointment  
 b) eye drops contain very small amount of drug  
 c) eye drops are constantly washed out with tears  
 d) there is frequent fresh infection
- 179 A painful eye with intolerance to light imply——.  
 a) conjunctivitis  
 b) corneal ulcer / injury  
 c) cataract  
 d) no serious illness, one can wait for 2-3 days
- 180 Injury to the cornea requires——.  
 a) eye pad after instilling eye drops  
 b) referral to a doctors  
 c) instillation of drops, eye pad and referral to a doctor  
 d) instillation of eye drops every hour
- 181 Visual defects in childhood are usually of the nature of——.  
 a) shortsightedness  
 b) longsightedness  
 c) hazy vision  
 d) nightblindness
- 182 Visual defects after the age of forty are usually of—— type.  
 a) shortsightedness (can not see for objects)  
 b) longsightedness (can not see near objects)  
 c) both a and b  
 d) nightblindness
- 183 The earliest feature of vitamin - A deficiency is——.  
 a) Bitot's spots  
 b) corneal ulcers  
 c) nightblindness  
 d) corneal opacities

- 184 The richest and cheapest source of vitamin A is \_\_\_\_\_.  
 a) eggs  
 b) drumstick leaves  
 c) carrots  
 d) fish
- 185 The important cause(s) of corneal ulcer is \_\_\_\_\_.  
 a) injury, vitamin A deficiency, infection  
 b) cataract  
 c) glaucoma  
 d) pterygium (conjunctival flap growing on cornea)
- 186 Dacryocystitis (weeping eye) is essentially \_\_\_\_\_.  
 a) inflammation of tear glands  
 b) inflammation of tear duct  
 c) an illness of the eyelid  
 d) corneal ulcer
- 187 Early dacryocystitis should be treated with \_\_\_\_\_.  
 a) eye drops and aspirin  
 b) eye drops and oral anti-infective drugs  
 c) vitamin A and cotrimoxazole  
 d) eye ointment and vitamin A
- 188 Trachoma is an illness due to \_\_\_\_\_.  
 a) vitamin deficiency  
 b) allergy  
 c) bacteria  
 d) large viruses
- 189 There can be no other method of treating a corneal opacity than \_\_\_\_\_.  
 a) tetracycline eye ointment  
 b) cataract removal  
 c) corneal transplant  
 d) ignore it
- 190 Sudden onset of pain and redness in an eye is suggestive of \_\_\_\_\_.  
 a) cataract  
 b) glaucoma  
 c) corneal injury / ulcer or glaucoma  
 d) corneal ulcer
- 191 Squint is mostly because of \_\_\_\_\_.  
 a) congenital illness of eye  
 b) obstruction of vision due to locks of hair on the forehead in early childhood  
 c) visual defects  
 d) unhealthy reading habits in early childhood
- 192 A mature cataract is known by \_\_\_\_\_.  
 a) a shadow of the iris on the lens when light is thrown in  
 b) absence of iris shadow on the lens  
 c) increase in pressure in the eye  
 d) complete loss of vision
- 193 The pupil in the eye is essentially \_\_\_\_\_.  
 a) the window in the iris regulating amount of light in to the eye  
 b) lens  
 c) part of cornea  
 d) None of a, b or c
- 194 Retina is essentially \_\_\_\_\_.  
 a) a layer of light sensitive cells  
 b) a screen that folds and unfolds  
 c) the covering of the eyeball  
 d) a part of cornea
- 195 To say that visual defects are not as common in the villages than they are in the cities is \_\_\_\_\_.  
 a) true because village people have no need for intense working of eyes  
 b) true since village people get plenty of vitamin A  
 c) not true since there is hardly any visual examination in villages  
 d) true, or else there would be so many eye specialists in the villages
- 196 The main function(s) of ears is \_\_\_\_\_.  
 a) gathering sound waves  
 b) gathering sound waves and maintaining positional balance  
 c) hearing and maintaining correct air pressure in the throat the eustachian tube  
 d) relaying information about sounds to the brain



- 197 Eustachian tube opens in \_\_\_\_\_.  
 a) external ear  
 c) internal ear  
 b) middle ear  
 d) labyrinth
- 198 The function of eustachian tube is \_\_\_\_\_.  
 a) maintaining proper air pressure in the ears  
 c) drainage of nose  
 b) transporting discharges from the ear in to the throat  
 d) preventing accumulation of wax in ears
- 199 Transmission of sound waves from the eardrum to labyrinth is done by \_\_\_\_\_.  
 a) eustachian tube  
 c) the air in the middle ear  
 b) a chain of ossicles (small bones) in the middle ear  
 d) the nerve of the ear
- 200 Middle ear infections occur mostly because of \_\_\_\_\_.  
 a) growth of fungus in the wax of the ear  
 c) entry of water while bathing or swimming  
 b) perforation of the eardrum  
 d) passage of URT infection through the eustachian tube
- 201 In middle ear infection \_\_\_\_\_.  
 a) inflammation precedes perforation of eardrum  
 c) perforation and inflammation occur simultaneously  
 b) perforation of eardrum comes first and then comes inflammation  
 d) perforation and inflammation have no mutual connection
- 202 After the perforation of the eardrum \_\_\_\_\_.  
 a) complete recovery of the drum is unlikely  
 c) recovery is possible only if due care is taken  
 b) recovery by natural process is the rule  
 d) healing occurs within a day or two
- 203 Throbbing pain in the ear \_\_\_\_\_.  
 a) is followed by bursting of the eardrum  
 c) should be left alone since perforation that follows it helps to drain the ear of pus  
 b) need not cause perforation of the drum if immediate treatment with anti-infective drugs and aspirin is started  
 d) should be treated by aspirin
- 204 The use of ear drops in perforation of eardrum due to middle ear infection \_\_\_\_\_.  
 a) is a vital treatment  
 c) is of little use  
 b) causes more damage  
 d) helps in certain cases
- 205 After the bursting of eardrum in middle ear infections, \_\_\_\_\_.  
 a) throbbing pain increases  
 c) throbbing pain comes to an end  
 b) throbbing is bound to persist  
 d) throbbing pain is occasionally relived
- 206 After the eardrum perforates due to middle ear infection it is important to \_\_\_\_\_.  
 a) refer to a doctor  
 c) start treatment after stoppage of discharge of pus  
 b) treat immediately and carefully in the village  
 d) stop discharge by putting a cotton swab in the ear
- 207 The most important action to be taken to avoid hearing loss in the community is \_\_\_\_\_.  
 a) early detection of congenital defects of hearing  
 c) treating all painful ear illnesses properly and immediately  
 b) to avoid needling of ears with matchsticks  
 d) to avoid accumulation of wax in the ear

- 208 Even if the eardrum is perforated, partial hearing in that ear persists because of \_\_\_\_\_.  
 a) the remaining portion of the eardrum      b) the chain of ossicles in the middle ear being intact  
 c) the other ear      d) the conduction of sound waves by the bone housing the middle ear
- 209 The major cause of formation of wax in ear is \_\_\_\_\_.  
 a) practice of putting oil in the ears      b) secretion of oily substance from the skin of the external ear canal  
 c) passage of secretions from the throat in to the ear through the eustachian tube      d) collection of dirt from outside
- 210 Acute ear pain with itch is mostly because of \_\_\_\_\_.  
 a) wax in the ear      b) growth of fungus in the external ear  
 c) allergic inflammation of the ear      d) ear discharge due to perforation of the eardrum
- 211 Motion sickness is attributed to \_\_\_\_\_.  
 a) undue sensitivity of the middle ear positional      b) visual disturbance due to speeding vehicle mechanism in some people  
 c) mostly to psychological factors      d) the fact that most children suffer from nausea and vomiting due to any cause
- 212 The most important reason behind early loss of teeth is \_\_\_\_\_.  
 a) invasion of tartar on the roots of teeth      b) habitual application of burnt tobacco  
 c) eating raw foods      d) excessive eating of sweets
- 213 The major causative factor of caries is \_\_\_\_\_.  
 a) tartar on teeth and gingivitis      b) decaying food particles on the teeth and low fluoride levels in drinking waters  
 c) consumption of hot and cold food substances      d) use of herbal twigs instead of brush for cleaning alternatively teeth
- 214 A throbbing toothache suggests \_\_\_\_\_.  
 a) loss of the hard dentine cover of teeth      b) that infection has reached the cavity of the tooth  
 c) pus in the gap between adjacent teeth      d) that tooth is about to fall off
- 215 If there is throbbing toothache \_\_\_\_\_.  
 a) paracetamol is the cure      b) anti-infective drugs and aspirin are needed  
 c) mouth wash should be avoided since it pushes      d) immediate referral to a dentist is essential more dirt in the bad tooth
- 216 The major cause of pyorrhea (pus from gums) is \_\_\_\_\_.  
 a) inadequate cleansing of teeth      b) using herbal twigs instead of a tooth brush  
 c) use of burnt tobacco for habitual application      d) injury due to chewing of raw foods
- 217 Artificial dentures help old people mainly \_\_\_\_\_.  
 a) with a facelift      b) by improvement in nutrition  
 c) by preventing erosion of gums      d) by improving speech
- 218 To remove tartar from teeth \_\_\_\_\_.  
 a) regular use of herbal twigs is essential      b) scaling is necessary  
 c) citrus fruits are helpful      d) regular brushing is essential
- 219 For cleaning teeth \_\_\_\_\_.  
 a) tooth paste has no alternative      b) herbal twig or a mere tooth brush is enough  
 c) burnt tobacco is helpful      d) application of tooth powders with fingers is as good as any other method



- 220 Frequent stomatitis implies ——.  
 a) lack of vitamin A  
 b) lack of vitamin B  
 c) poor supply of vitamin C  
 d) poor supply of vitamin D
- 221 A persistent white patch in the mouth should ——.  
 a) be treated with gentian violet application  
 b) be suspected for early cancerous changes  
 c) is a kind of stomatitis  
 d) be no concern since there is no particular risk associated
- 222 The main cause of oral cancer is ——.  
 a) poor dental hygiene  
 b) smoking  
 c) tobacco chewing  
 d) chillie
- 223 Goitre is ——.  
 a) a disease of thyroid gland in the neck  
 b) a disease of cervical lymph nodes  
 c) a laryngeal disease  
 d) caused by excess iodine consumption
- 224 The baby of a mother having goitre is likely to suffer from ——.  
 a) mental retardation  
 b) diseases of neck  
 c) blindness  
 d) liver disease
- 225 Excessive flow of thyroid hormones causes ——.  
 a) bulging of eyeballs and tremors in extremities  
 b) swelling of thyroid  
 c) growth retardation  
 d) nothing more than low grade fever
- 226 Chronic cervical adenitis (use local name) is ——.  
 a) due to any infection of lymphnodes  
 b) tuberculosis of lymphnodes  
 c) swelling and inflammation of thyroid  
 d) a cancerous growth
- 227 The correct treatment for chronic cervical adenitis is ——.  
 a) surgical removal  
 b) cotrimoxazole and aspirin  
 c) anti-tuberculous drugs  
 d) Iodine
- 228 The lymphnodes of chronic cervical adenitis are ——.  
 a) hard like a stone  
 b) soft and tender  
 c) rubber like but non tender  
 d) apt to heal in a period of 4 - 5 days
- 229 — is/are essential for recognition of a fracture.  
 a) Pain, swelling, change in shape, tenderness on pressure  
 b) Loss of function of that part  
 c) X-ray picture  
 d) A crackling sound on moving the bone
- 230 The crucial first aid for a fracture is ——.  
 a) splinting for prevention of movement of the fragments  
 b) injecting a pain killer  
 c) an X-ray examination  
 d) aligning the broken fragments of bone
- 231 Migrating joint pains in the schooling age suggest ——.  
 a) permanent damage to joints  
 b) possibility of damage to heart valves  
 c) possibility of high fever  
 d) possibility of damage to the kidneys
- 232 Rheumatic fever ——.  
 a) is self limiting  
 b) is never cured completely  
 c) should be treated with monthly penicillin injections to avoid damage to the heart valves  
 d) always does unavoidable damage to heart though the fever subsides sooner or later

- 233 It is possible to recognize early damage to heart valves by \_\_\_\_.
- a) edema on both feet                      b) ascitis  
c) breathlessness                          d) heart murmurs
- 234 Rheumatoid arthritis is \_\_\_\_.
- a) an illness involving multiple joints simultaneously                      b) migrating arthritis  
c) senile arthritis                          d) none of a, b or c
- 235 Burning pain while passing urine is mainly due to \_\_\_\_.
- a) infection of the urinary tract                      b) a urinary calculus  
c) excessive eating of chillies                          d) only hot climates
- 236 Women suffer from burning micturition more often than men because \_\_\_\_.
- a) women have a shorter urethra and it opens in the vaginal tract                      b) women are vulnerable to many infections, more than men  
c) women tend to complain more often than men                          d) women have to work in sun more often than men
- 237 The most important cause of the complaint of pus through urethra in thirties in both men and women is \_\_\_\_.
- a) gonorrhea                      b) fungal infection  
c) trichomonas infection                          d) viral infection
- 238 Infection of urinary bladder causes \_\_\_\_ urine.
- a) dark yellow                      b) turbid  
c) reddish                          d) whitish
- 239 A calculus in the left ureter will cause the pain in \_\_\_\_ region.
- a) 5 and 6 (to the left of navel)                      b) below the navel  
c) to the right of navel                          d) around the navel
- 240 A calculus in the urinary bladder commonly causes \_\_\_\_.
- a) acute shooting pains                      b) retention of urine and inflammation of the bladder  
c) bleeding in urine                          d) frequency of passing urine
- 241 Edema on face in childhood should be suspected for \_\_\_\_.
- a) heart disease                      b) malnutrition  
c) kidney disease                          d) liver disease
- 242 In adults less than \_\_\_\_ urine volume in 24 hours should be suspected for a kidney disorder.
- a) two liters                      b) one liter  
c) half a liter                          d) 250 ml
- 243 Retention of urine in a one year old boy is mostly due to \_\_\_\_.
- a) urinary stone                      b) valve on the urethral opening in the bladder  
c) stricture of urethra                          d) phimosis (very small urethral opening on the penis)
- 244 Retention of urine in the first trimester of pregnancy is commonly because of \_\_\_\_.
- a) a urinary stone                      b) pressure on the urethra by the growing uterus  
c) infection of the urinary tract                          d) kidney disease
- 245 Retention of urine in the elderly males is mostly due to \_\_\_\_.
- a) cancer of bladder                      b) growth of prostate gland  
c) urinary stones                          d) inflammation of urethra



- 246 Retention of urine in the elderly women is more commonly due to \_\_\_\_\_.  
 a) uterine cancers pressing the urethra                      b) uterine cancer or prolapse of uterus  
 c) prolapse of uterus    d) menopause
- 247 White discharge in women can be from one of \_\_\_\_\_ group of causes.  
 a) vaginitis, pregnancy, ovarian tumors                      b) vaginitis, pelvic inflammation, cervical erosion or pregnancy  
 c) cancer or menstrual disorders                              d) menarche or menopause
- 248 White discharge and red spots in the vagina suggest (i) \_\_\_\_\_ and the treatment is (ii) \_\_\_\_\_.  
 a) (i) fungal vaginitis (candidiasis)                      b) (i) vaginitis due to trichomonas  
       (ii) gentian violet    (ii) metronidazole  
 c) (i) gonorrhea (ii) penicillin                              d) (i) trichomonas vaginitis (ii) gentian violet
- 249 Vaginitis with curds like discharge is due to (i) \_\_\_\_\_ and the treatment is (ii) \_\_\_\_\_.  
 a) (i) gonorrhea (ii) cotrimoxazole                      b) (i) candidiasis (ii) metronidazole  
 c) (i) candidiasis (ii) gentian violet                      d) (i) trichomonas vaginitis (ii) cotrimoxazole
- 250 White discharge in women implies \_\_\_\_\_.  
 a) vaginitis and therefore treatment with gentian violet and metronidazole                      b) vaginitis and other causes and so an internal examination is essential  
 c) no particular cause since many women suffer from such a problem                      d) a possible pregnancy and so check up is necessary
- 251 Women with vaginal bleeding in between menses in forties should be examined for \_\_\_\_\_.  
 a) abortion    b) uterine cancer  
 c) irregular menstruation                                      d) ectopic pregnancy
- 252 Vaginal bleeding in the first trimester but with a closed cervical os suggests \_\_\_\_\_.  
 a) inevitable abortion    b) threatened abortion  
 c) missed abortion    d) ectopic pregnancy
- 253 Fits (convulsions) in early childhood without any apparent illness can be due to \_\_\_\_\_.  
 a) tetanus    b) fevers  
 c) birth injury to brain or epilepsy                      d) a self limiting condition
- 254 Frequent fits (convulsion) without unconsciousness imply \_\_\_\_\_.  
 a) a type of epilepsy    b) no particular illness  
 c) absence of epilepsy    d) that epilepsy is getting cured
- 255 A person with epilepsy needs to take anti-epileptic drugs for \_\_\_\_\_.  
 a) at least 1 year    b) upto 50 years of life  
 c) at least 10 years    d) the whole life
- 256 A growing tumor in the brain is suggested by \_\_\_\_\_ group of the symptoms / signs from the following.  
 a) focal paralysis, loss of sensation, involuntary movements, headaches, neck rigidity                      b) headaches, convulsion, vomiting, focal loss of function or sensation  
 c) tingling, unconsciousness, paralysis, behavioral changes                      d) illusions and loss of sensation
- 257 The basic aid in case of dog bite is \_\_\_\_\_.  
 a) referring the patient for anti-rabies injections                      b) washing the wound clean with soap water  
 c) killing the dog and sending it for examination                      d) keep the dog under vigilance for 10 days

- 258 A dogbite is likely to cause rabies if there are — of the following factors.
- |   |  |
|---|--|
| a) distance of the bite from the brain, depth of bite local blood circulation, type of animal involve   | b) distance of the bite from the brain, length of the injury, the aggressiveness of the attacking animal |
| c) closeness of the bite to the brain, density of local nerve fibers, type of animal, depth of the bite | d) length and depth of the wound, bleeding, how wild is the animal                                       |
- 259 The rabies virus travel via — to the brain.
- |                 |                          |
|-----------------|--------------------------|
| a) lymphatics   | b) blood vessels         |
| c) nerve fibers | d) saliva of the patient |
- 260 In case of dog bite, giving anti-rabies injections —.
- |   |  |
|---|--|
| a) is essential in every instance   | b) as a routine is a wrong practice                            |
| c) depends upon the risk of developing rabies from the bite and type and behavior of animal | d) is a good practice since rabies is an unpredictable illness |
- 261 Poliomyelitis is an illness of —.
- |            |                               |
|------------|-------------------------------|
| a) muscles | b) nervous system             |
| c) bones   | d) nervous system and muscles |
- 262 Polio is due to —.
- |                     |                       |
|---------------------|-----------------------|
| a) toxic substances | b) viruses            |
| c) bacteria         | d) hereditary factors |
- 263 Polio immunization ensures — protection of the immunized children.
- |               |                     |
|---------------|---------------------|
| a) 70 percent | b) 80 percent       |
| c) 90 percent | d) near 100 percent |
- 264 The most important factor in polio immunization drives is —.
- |  |   |
|--|---|
| a) avoiding breast-feeding for half an hour afterwards | b) ensuring cold chain maintenance                        |
| c) giving injectable vaccine rather than the oral one  | d) ensuring that atleast one dose is given to every child |
- 265 The illness of poliomyelitis really begins with —.
- |                                  |                                     |
|----------------------------------|-------------------------------------|
| a) cold, fever and loose motions | b) loss of sensation in limbs       |
| c) paralysis of a limb           | d) a fit of convulsion during fever |
- 266 The earliest clue to paralytic poliomyelitis is —.
- |                                  |                                     |
|----------------------------------|-------------------------------------|
| a) cold, fever and loose motions | b) loss of sensation in limbs       |
| c) paralysis of one of the limbs | d) a fit of convulsion during fever |
- 267 The commonest incident leading to paralytic poliomyelitis is —.
- |   |   |
|---|---|
| a) an intramuscular injection during an episode of fever and loose motions    | b) giving vigorous massage to babies with fever and loose motions |
| c) failure to give polio vaccination to babies having fever and loose motions | d) fever leading to brain involvement                             |
- 268 The paralytic limb in poliomyelitis — till there is tenderness.
- |  |  |
|--|--|
| a) should not be massaged              | b) should be massaged                        |
| c) entails hospitalization of the baby | d) should be treated with intravenous saline |
- 269 Polio spreads by —.
- |                        |  |
|------------------------|--|
| a) air borne infection | b) dirty injections                    |
| c) skin contact        | d) contaminated food water and fingers |



- 270 Tetanus is caused due to ———.
- a) rusted articles
  - b) encephalitis (brain fever) caused by germs in dust and animal waste
  - c) contamination of wounds by germs from dust and animal waste
  - d) childbirths conducted at homes
- 271 To prevent tetanus completely ———.
- a) immunizing all persons with tetanus toxoid is essential
  - b) injuries should be avoided
  - c) ensuring clean drinking water is essential
  - d) all childbirths should be conducted with utmost cleanliness
- 272 Tetanus germs readily die with ———.
- a) use of iodine
  - b) use of soap
  - c) anti-septic ointments
  - d) use of hydrogen peroxide
- 273 Malnutrition (Kwashiorkor or marasmus) is caused by ———.
- a) poor supply of vitamins
  - b) lack of adequate food supply
  - c) lack of proteins
  - d) habitual consumption of dirt
- 274 The best measure to prevent injuries due to burns is ———.
- a) extinguishing fire by throwing plenty of water
  - b) not to throw water since it causes more damage
  - c) wrapping up with a blanket is better than throwing water for extinguishing the flames
  - d) either wrapping with a blanket or throwing water (both being equally effective)
- 275 Burns less than ——— percent of the body surface can be treated at home provide the face / head is safe
- a) 15
  - b) 20
  - c) 25
  - d) 5
- 276 In adults if the entire body surface is held to be 100 percent, the skin of an arm and forearm, hand etc. (upper extremity) constitute ---- of it.
- a) 18 percent
  - b) 9 percent
  - c) 7 percent
  - d) 10 percent
- 277 For a person with excessive burns injuries the most important first aid is ———.
- a) applying ointment on the injuries
  - b) giving oral or intravenous fluids
  - c) starting antibiotic drugs orally
  - d) protecting from contact with air / atmosphere
- 278 The essential difference between a krait and a cobra is ———.
- a) that krait poisons blood while cobra is neurotoxic
  - b) cobra is more poisonous of the two
  - c) cobra is not striped like a krait is
  - d) a cobra poisons the blood while krait is neurotoxic
- 279 Essential difference between a saw scale viper and krait is that ———.
- a) the viper is neurotoxic while the krait affects blood
  - b) the viper is the bigger of the two
  - c) krait is neurotoxic while the viper poisons blood
  - d) krait poison is mild while the viper is highly poisonous
- 280 A neurotoxic snake bite has ——— as the first clue of poisoning.
- a) loss of taste sensation of the tongue to recognize chilies
  - b) the body becoming cold and numb
  - c) difficulty is swallowing
  - d) drooping of eyelids
- 281 The hematotoxic bite of vipers is first identified by ———.
- a) bleeding through urethra
  - b) red eyes
  - c) vomiting blood
  - d) bleeding through gums





- 294 The commonest cancers in our community are related to \_\_\_\_\_.  
a) mouth and cervix of uterus  
b) lungs and stomach  
c) breast and uterus  
d) liver and windpipe
- 295 The lockjaw commonly seen to affect our village women is \_\_\_\_\_.  
a) hysteria  
b) a fake illness  
c) tetanus  
d) an illness affecting the joints of mouth
- 296 The phenomenon of 'possession' is really due to \_\_\_\_\_.  
a) evil spirits  
b) the tyranny imposed on our women by the society  
c) a fancy taken by illiterate women  
d) a brain affliction
- 297 Ballooning of skin of the penis of a young boy while passing urine is due to \_\_\_\_\_.  
a) inflammation of the glans  
b) phimosis (small outlet of urethra)  
c) obstruction in the urethral passage  
d) a stone in the urinary bladder
- 298 A person suffering from frequent instances of balanitis (inflammation of glans penis) should be examined for \_\_\_\_\_.  
a) possibility of cancer of penis  
b) diabetes  
c) gonorrhoea  
d) syphilis
- 299 A painless swelling of testicles is possible due to \_\_\_\_\_.  
a) infection  
b) collection of fluid in the scrotum  
c) injury to the testicles  
d) or collection of fluid in the testicles
- 300 If one of the testicles is not in the scrotal sac by the age of 3 years, it is likely to be \_\_\_\_\_.  
a) in the urinary bladder  
b) in the abdomen  
c) in the groin or abdomen  
d) in the groin

## MULTIPLE CHOICE QUESTIONS : EXAM 2

- 1 In the history of evolution——.
  - a) monkeys are subsequent to human beings
  - b) monkey precedes human beings
  - c) both monkey and human beings developed simultaneously
  - d) monkey and human beings have no mutual relation
- 2 In evolution——.
  - a) human beings are a special creation
  - b) human beings developed as the next stage of animals
  - c) human beings and monkeys are similar in all aspects
  - d) there can be no evolution after human beings
- 3 Innature——.
  - a) monocellular life forms precede human beings by ages
  - b) monocellular life forms came only after human beings
  - c) all flora and fauna were created at the same time whom
  - d) nothing can be said about who proceeded
- 4 At the time of origin of the earth——.
  - a) only human beings existed
  - b) there were only monocellular forms of life
  - c) there were only plants and no animals
  - d) there was no life
- 5 Illnesses ascribed to evil spirits are really——.
  - a) illnesses created by departed souls and dead
  - b) illnesses not properly understood by people begins
  - c) mental illnesses
  - d) inexplicable illnesses
- 6 The principal mechanism of evolution of life is——.
  - a) variation in living things
  - b) transfer of characteristics into next generations
  - c) survival of able life forms in prevailing circumstances
  - d) all a,b, and c
- 7 The biological difference between germs and humans is——.
  - a) that germs are monocellular and humans multicellular
  - b) humans need food for survival while germs do not
  - c) germs survive in water while humans need air
  - d) germs can prepare their own food but humans can not
- 8 The smallest unit of body is——.
  - a) a cell
  - b) organ
  - c) system
  - d) blood
- 9 Which of the following is the correct sequence of functional organization ?
  - a) Cell - tissue - body - system.
  - b) Cell- tissue - system - body.
  - c) System - cell - tissue - body.
  - d) Cell - brain - body.
- 10 Children should not be given anti-motility drugs in diarrhea because——.
  - a) children do not suffer from pain in diarrhea
  - b) because these drugs can cause intestinal slowing and paralytic distension
  - c) griping pains are needed to purge the intestines of foul substances
  - d) pain is natural reaction of intestines which warns us about the disease inside
- 11 Which of the following statement is wrong ?
  - a) Children eat dust(pica) because of malnutrition.
  - b) Pica is child's mechanism of attracting parent attention.
  - c) Injections can cure pica.
  - d) Pica causes worms infestations.



- 12 Which of the following statement is true ?  
 a) All cells function alike. b) All tissues work alike.  
 c) All cells in the same tissue have identical functions d) All cells in a given system work alike.
- 13 Which of the following statement is true ?  
 a) Many tissues together make a system. b) Every system usually has one particular type of tissue.  
 c) Every tissue works fully independently. d) Every system in the body functions fully independently
- 14 Some characteristics run through generations because of \_\_\_\_\_.  
 a) proteins b) genes and chromosomes  
 c) cell nucleus d) cell protoplasm
- 15 The gender of the baby is decided by \_\_\_\_\_.  
 a) the X-sex chromosome coming from the mother b) Y-chromosome coming from the father  
 c) mere chances, since semen contains both Y and X chromosomes at the same time d) the date of sexual mating
- 16 Though every movement is the result of the action of muscle - bone - joint; some other systems are of direct help in every action and these are \_\_\_\_\_.  
 a) digestive and respiratory b) nervous and digestive system  
 c) nervous system and blood c) nervous system, respiratory and excretory system
- 17 Hands and legs consist of the following systems / organs \_\_\_\_\_.  
 a) blood, circulation, muscles, nervous system, bones, lymphatics b) circulation, muscles, bones, skin, blood, lymphatics and nerves  
 c) circulation, muscles, bones, heart, arteries, veins, nerves etc. d) blood and lymph, skin, bones, joints, muscles, hair, nails
- 18 The function(s) of long bones is / are \_\_\_\_\_.  
 a) to provide leverage for movement and produce blood b) movement and protection of internal organs  
 c) weightbearing, movement and protection of internal organs d) healing fractures and movement
- 19 The mechanism of muscular function is \_\_\_\_\_.  
 a) swelling and shortening of muscle cells b) protein fibers sliding against each other, causing shortening of muscle length  
 c) change of length of tendons d) stretching of muscle fibers (like rubber) and recoil afterwards
- 20 The muscle fibers in the heart are \_\_\_\_\_.  
 a) voluntary b) semivoluntary - semi-involuntary  
 c) involuntary d) none of a,b or c
- 21 Respiratory muscles are \_\_\_\_\_.  
 a) voluntary b) involuntary  
 c) mostly involuntary but voluntary to some extent d) striated
- 22 The energy supply to muscles is from \_\_\_\_\_.  
 a) oxygen b) red blood cells  
 c) glucose sugar d) heat in the body

- 23 Muscles are mainly made up of \_\_\_\_\_.  
 a) fat  
 c) vitamins  
 sneeze, cough, laryngeal b) proteins  
 d) white blood cells
- 24 Fractures in childhood \_\_\_\_\_.  
 a) are very difficult to heal  
 c) heal slowly  
 b) usually do not separate completely  
 d) go unnoticed
- 25 Fractures usually heal in \_\_\_\_\_.  
 a) 3-4 days  
 c) 5-6 weeks  
 b) 3-4 months  
 d) 2 weeks
- 26 A joint sprain is \_\_\_\_\_.  
 a) stretching of joint capsule due to force  
 c) bleeding in the joint  
 b) contusion of bones  
 d) injury to muscles surrounding the joint
- 27 The fontanelle of a child closes slowly and this joint is of \_\_\_\_\_ type.  
 a) fixed  
 c) hinge  
 b) pivot  
 d) plain
- 28 Bone structure is mainly \_\_\_\_\_.  
 a) lime and calcium  
 c) proteins and vitamin D  
 b) calcium and proteins  
 d) proteins and calories
- 29 Meat eaters sucking the long bones get the \_\_\_\_\_.  
 a) blood producing marrow  
 c) gravy filling the bones during cooking  
 b) blood  
 d) only fat
- 30 Foul smell in breath is usually because of \_\_\_\_\_.  
 a) indigestion  
 c) tobacco chewing  
 b) smoking  
 d) unclean teeth
- 31 One often experiences a sudden surge and tension in cheeks while starting meals because of \_\_\_\_\_.  
 a) contraction of cheek muscles  
 c) eagerness to chew food  
 b) no particular reason  
 d) gush of saliva from parotid glands
- 32 Chewing bread for sometime gives a sweet taste in the mouth because \_\_\_\_\_.  
 a) of illusion of chewing sugar  
 c) bread itself is usually sweet  
 b) saliva breaks down starch into sugars in few seconds  
 d) sugar takes sometime to taste
- 33 There is little taste in fevers because \_\_\_\_\_.  
 a) there is no appetite in fevers  
 c) fever causes swelling and closure of taste buds  
 b) fever affects brain and therefore taste  
 d) infection
- 34 Food does not go up into nose from the throat because of \_\_\_\_\_.  
 a) tonsils  
 c) soft palate  
 b) uvula  
 d) voicebox
- 35 Illnesses of digestive system are commonplace \_\_\_\_\_.  
 a) because the gut has to always handle external substances and contamination  
 c) is not true  
 b) because the gut is usually the weakest system in the body  
 d) because all germs can get enough food and water in the gut



- 36 Blowing a balloon often creates a strange sensation in the cheeks because of \_\_\_\_\_.  
a) stretching of cheeks  
b) stretching the nerves of the cheek  
c) of an illusion  
d) gush of air into the parotid glands
- 37 Food stays for about \_\_\_\_\_ in the stomach.  
a) 3-4 hours  
b) half an hour  
c) 8 hours  
d) 1-2 hours
- 38 Vomiting often causes sour taste in mouth because \_\_\_\_\_.  
a) gastric germs cause fermentation of food  
b) bile juice is sour  
c) any vomiting is sour  
d) gastric acid tastes sour
- 39 Hunger is felt in \_\_\_\_\_.  
a) liver  
b) pancreas  
c) stomach  
d) small intestine
- 40 The mechanism of hiccoughs is really \_\_\_\_\_.  
a) sudden pulling up of small intestine.  
b) sudden pulling up of voicebox.  
c) sudden but rhythmic action of chest diaphragm.  
d) sudden spasm of stomach.
- 41 Eructation after meals (passing air through mouth) is mainly because \_\_\_\_\_.  
a) fermentation of food in the stomach  
b) the air from small intestine coming up into the stomach  
c) swallowing of air while breathing  
d) swallowing of air with food
- 42 Food volume can vary a bit everyday since \_\_\_\_\_.  
a) some stretching of stomach according to meals  
b) food consumed more than the stomach capacity automatically passes into the small intestine immediately  
c) the process of digestion starts immediately as soon as we start eating  
d) food can stay in the esophagus for sometime
- 43 After meal siesta is usually with the left side down \_\_\_\_\_.  
a) stomach is on the left side in the abdomen  
b) heart is on the left side  
c) spleen in on the left side  
d) the small intestine is on the left side in the abdomen
- 44 Bile is manufactured in \_\_\_\_\_.  
a) gallbladder.  
b) liver.  
c) pancreas.  
d) bile duct.
- 45 Bile digests \_\_\_\_\_.  
a) starches  
b) proteins  
c) minerals  
d) fats
- 46 Gastric juice mainly digests \_\_\_\_\_.  
a) proteins  
b) starches  
c) fats  
d) all of a, b, c
- 47 Bile duct opens into \_\_\_\_\_.  
a) stomach  
b) esophagus  
c) small intestine / duodenum  
d) large intestine
- 48 In small intestine \_\_\_\_\_ is digested.  
a) Starches  
b) Proteins  
c) Fats  
d) All of a, b, c





- 63 There is associated watering and reddening of eyes in common cold due to \_\_\_\_\_.  
 a) a lot of sneezing. b) cold starting in the eyes before getting in to the nose.  
 c) unknown cause. d) the tear duct.
- 64 One experiences rushing of air into the eyes while blowing the nose because of \_\_\_\_\_.  
 a) the eustachian tube. b) the tear duct.  
 c) the fact that air can pass anyhow. d) the fact that it is the external air being felt in the eye.
- 65 The upper respiratory tract experiences more \_\_\_\_\_ illnesses as compare to the lower respiratory tract.  
 a) viral b) bacterial  
 c) serious d) pneumonia like
- 66 The breath also smells of alcohol (after consumption of liquor) because \_\_\_\_\_.  
 a) there is a lot of belching from stomach. b) the alcoholic vapors pass into lungs at the time of drinking liquor.  
 c) it is the liquor left in the mouth that gives the smell d) alcohol from blood passes into lungs.
- 67 The nicotine substance from smoking \_\_\_\_\_.  
 a) collects in the lungs causing bronchitis. b) enters lung capillaries and thence into the heart.  
 c) is passed off into exhalation (breathing out). d) damages lung capillaries due to chronic collection.
- 68 The right lung has 3 major lobes while the left has only 2 major lobes because \_\_\_\_\_.  
 a) the right lung needs more air. b) the left lung has to accommodate heart also.  
 c) there are only two bronchi branching out on the left side. d) the left side has to accommodate stomach also.
- 69 If one of the two lungs is non-functional \_\_\_\_\_.  
 a) there will be death. b) respiration rate will decrease.  
 c) respiration rate will increase. d) nothing of a, b, c will happen.
- 70 If one of the kidneys is rendered non-functional \_\_\_\_\_.  
 a) urine volume will halve. b) urine volume will double.  
 c) the person is bound to die. d) nothing of a, b or c will happen.
- 71 Breathing in also causes abdominal bulging because \_\_\_\_\_.  
 a) diaphragm pushes the abdominal organs down and out. b) some air passes into the stomach.  
 c) it is habitual; one can breathe in even without moving the abdomen. d) actually it is the abdomen which moves while breathing.
- 72 If there is no respiration for \_\_\_\_\_, there can be death.  
 a) 10 minutes b) 15 minutes  
 c) 3 minutes d) Half an hour
- 73 While talking \_\_\_\_\_.  
 a) air enters the larynx from outside. b) there is no air movement in the larynx.  
 c) there is exhalation. d) nothing of a, b, c happens.
- 74 The breathing rate of adults per minute is \_\_\_\_\_.  
 a) ten b) fifteen to twenty  
 c) thirty d) seventy
- 75 Blood is red because of \_\_\_\_\_.  
 a) protecting cells in the blood b) platelets  
 c) hemoglobin d) carbon dioxide

- 76 Red blood cells are broken down in \_\_\_\_\_.  
 a) spleen  
 c) liver  
 b) pancreas  
 d) long bones
- 77 When it is said that the person has less blood, it generally means that \_\_\_\_\_.  
 a) the volume of blood is less  
 c) there is less hemoglobin  
 b) there are less red blood cells  
 d) there are fewer white cells
- 78 In women (not pregnant) the hemoglobin should be atleast \_\_\_\_\_.  
 a) 13 grams  
 c) 10 grams  
 b) 8 grams  
 d) 12.5 grams
- 79 In average Indian average adults the total blood volume in the body is about \_\_\_\_\_.  
 a) 3 liters  
 c) 5 liters  
 b) 4 liters  
 d) 10 liters
- 80 The oxygen in the blood is present \_\_\_\_\_.  
 a) in the blood fluid (dissolved state)  
 c) in the platelets  
 b) in the white cells  
 d) in the red blood cells
- 81 In anemia, the weakness is mainly attributed to \_\_\_\_\_.  
 a) increased CO<sub>2</sub> in the blood  
 c) less oxygen content of blood  
 b) slowing of blood flow  
 d) vulnerability to infections
- 82 Infections are more common in anemic conditions because \_\_\_\_\_.  
 a) there is less hemoglobin in the blood  
 c) there are less blood proteins  
 b) there are fewer white cells  
 d) there is less oxygen in the blood
- 83 In the tissues, the exchange between blood and tissue cells is of the following nature \_\_\_\_\_.  
 a) O<sub>2</sub> passes into cells and CO<sub>2</sub> enters the blood  
 c) only O<sub>2</sub> diffuses into tissue cells  
 b) CO<sub>2</sub> passes into cells and O<sub>2</sub> enters the blood  
 d) nitrogen and oxygen change places
- 84 The lymph is really \_\_\_\_\_.  
 a) fluids seeping from the tissue cells  
 c) fluid seepage from veins  
 b) fluid seeping out of blood capillaries  
 d) fluid collecting from the digestive tract
- 85 Lymphatic system, apart from collecting fluid, also does the job of \_\_\_\_\_.  
 a) carrying sugars and fats  
 c) stopping many kinds of germs in the lymphnodes  
 b) stopping filaria worms and carrying white cells  
 d) manufacturing red blood cells
- 86 All the lymph collected ultimately pours into the \_\_\_\_\_.  
 a) intestines  
 c) the principal vein emptying into the heart  
 b) urinary system  
 d) the aorta
- 87 The main function of the heart is \_\_\_\_\_.  
 a) manufacturing blood systems  
 c) taking up oxygen into the blood  
 b) transporting blood through the entire body  
 d) transporting white blood cells
- 88 The various chambers of heart are interconnected by \_\_\_\_\_.  
 a) veins  
 c) valves  
 b) aorta  
 d) porous sheets of muscles
- 89 Saline infusions are administered in to \_\_\_\_\_.  
 a) capillaries  
 c) arteries  
 b) muscles  
 d) veins



- 90 The tourniquet for snakebite treatment is aimed at stopping the blood flow in the \_\_\_\_\_.  
 a) the capillary systems in the leg muscles      b) veins  
 c) arteries      d) both veins and arteries
- 91 The blood vessels that are often prominent on the body are actually \_\_\_\_\_.  
 a) veins      b) arteries  
 c) lymphatic vessels      d) all of a, b and c
- 92 The drug injected by intramuscular route (on the buttocks for example), after traveling through the capillaries, first passes through the \_\_\_\_\_ before entering the heart.  
 a) arteries      b) veins  
 c) lungs      d) liver
- 93 When a tourniquet is tied on the thigh (for treating snakebites), the vein(s) on the \_\_\_\_\_ side of the hand swell(s) up.  
 a) upper      b) lower  
 c) both upper and lower      d) either upper or lower
- 94 The blood column in the veins keeps on traveling towards the heart mainly due to \_\_\_\_\_.  
 a) blood pressure      b) valves in the vein that open only away from the heart  
 c) one way valves and muscle action      d) gravity
- 95 Which of the following statements about blood pressure is true ?  
 a) Blood pressure is an abnormal feature of human life.      b) Everyone has blood pressure, only it should be excessive.  
 c) Abnormal blood pressure need not be harmful.      d) Only old persons have to fear from this problem.
- 96 When blood is spurting from a wound, it must be the \_\_\_\_\_ that is cut.  
 a) artery      b) vein  
 c) capillary network      d) big artery
- 97 A drug injected in a muscle, will take about \_\_\_\_\_ to reach the brain.  
 a) a few minutes      b) half a minute  
 c) half an hour      d) one hour
- 98 The palpitation in the chest and the pulse are \_\_\_\_\_.  
 a) identical      b) different things  
 c) often identical but different at times      d) disproportionate
- 99 The disease known as the 'heart attack' essentially affects \_\_\_\_\_.  
 a) the heart valves      b) the lungs  
 c) heart muscles      d) the nerves of heart
- 100 The pulse rate of a newborn baby is about \_\_\_\_\_ per minute.  
 a) 100      b) 140  
 c) 120      d) 70 - 80
- 101 The human thought is processed in \_\_\_\_\_.  
 a) the brain      b) the heart  
 c) the spinal cord      d) the small brain
- 102 The senses that gather information for us humans are \_\_\_\_\_.  
 a) eye, ear, tongue and hands      b) skin, eye, ear, tongue and genitals  
 c) eye, ear, nose, skin and tongue      d) None of the above





- 116 The oral contraceptive pills contain \_\_\_\_\_.  
 a) male hormones or androgens (to suppress ovaries)  
 c) thyroxin  
 b) female hormones  
 d) insulin
- 117 Diabetes is caused by the lack of \_\_\_\_\_.  
 a) male hormones  
 c) thyroxin  
 b) female hormones  
 d) insulin
- 118 Cornea \_\_\_\_\_.  
 a) has black pigment  
 c) is transparent like glass  
 b) is the central hole of the eye for letting in rays  
 d) is either black, gray or blue depending upon the genetic factors
- 119 Conjunctiva is really \_\_\_\_\_.  
 a) a layer / film on the cornea  
 c) the membrane on the white of the eye  
 b) a layer / film on the pupil  
 d) a membrane seen only on the insides of eyelids
- 120 The pupil in the eye owes its property of changing size to \_\_\_\_\_.  
 a) the iris muscle  
 c) the tension on the lens  
 b) the change in corneal aperture  
 d) action of conjunctiva
- 121 The color of the eyes (blue, black or gray) is decided by \_\_\_\_\_.  
 a) cornea  
 c) pupil  
 b) iris  
 d) lens
- 122 Vitamin \_\_\_\_\_ is vital to the health of eyes.  
 a) A  
 c) C  
 b) B  
 d) D
- 123 The vitamin needed for the health of eyes is available in plenty in \_\_\_\_\_.  
 a) unpolished rice  
 c) citrus fruits  
 b) drumstick leaves  
 d) meat
- 124 When one tries to blow the air with a closed mouth, there is a strange feeling of pressure in the ears because of \_\_\_\_\_.  
 a) air passing into the lacrimal apparatus  
 c) the air pressure on eardrums  
 b) air passing into the eustachian tubes  
 d) air blown into the sinuses
- 125 The motion sickness phenomenon is due to \_\_\_\_\_.  
 a) visual disturbances  
 c) stimulation of the internal ear apparatus  
 b) strange feeling in the middle ear  
 d) psychological reasons
- 126 Eustachian tube opens into \_\_\_\_\_.  
 a) external ear  
 c) internal ear  
 b) middle ear  
 d) the outer part of nasal cavity
- 127 The transmission of sound waves from the eardrum to the internal ear is effected through \_\_\_\_\_.  
 a) the air in the middle ear  
 c) the continuity of the eardrum into the internal ear  
 b) the fluid medium of the middle ear  
 d) the chain of small bones in the middle ear structure
- 128 Hearing is not completely lost in middle ear disease because of \_\_\_\_\_.  
 a) the air in the middle ear chamber  
 c) eustachian tubes  
 b) the bone housing the middle ear  
 d) other conduits

- 129 The water that enters our ears during swimming can be removed by tilting the head and it actually comes from \_\_\_\_.
- a) the external ear
  - b) the middle ear
  - c) the internal ear
  - d) None of the above a, b, c
- 130 The eardrum that we feel while removing wax from the ear is placed in between \_\_\_\_.
- a) the external and internal ear
  - b) the external and middle ear
  - c) the middle and the internal ear
  - d) the eustachian tube and the internal ear
- 131 Oil instilled into the ears reaches \_\_\_\_.
- a) the cochlea - internal ear
  - b) the chain of small bones in the middle ear
  - c) the eardrum
  - d) the eustachian tube
- 132 The soles of our feet do not wear out like shoes because \_\_\_\_.
- a) skin is resistant to wearing effect
  - b) there is a thin oil film on the skin to prevent skin loss
  - c) lost skin cells are replaced by new ones from the deeper layers
  - d) the soles are very thick skinned
- 133 An oil massage on the body appears to be absorbed because \_\_\_\_.
- a) oil enters the small pores of the skin and thence the circulation
  - b) the massaging hands take the most of it
  - c) all cells are porous
  - d) of drying and evaporation
- 134 The main function of sweat in hot weathers is \_\_\_\_.
- a) to keep the skin clean
  - b) to provide fluids to the upper tissue layers of skin
  - c) excretion of salts
  - d) temperature regulation of the body
- 135 The gooseskin effect is due to \_\_\_\_.
- a) innumerable tiny thorn like structures in the skin
  - b) lifting up of some of the lower skin structures
  - c) contraction of hair root muscles
  - d) poorly understood factors
- 136 The job of fighting germs entering the body is mainly done by \_\_\_\_.
- a) white blood cells
  - b) special proteins - globulins
  - c) both white cells and anti-body proteins
  - d) hormones
- 137 Which of the following statements about immunity is true ?
- a) Globulins and white cells engage different kinds of germs when it comes to defending the body.
  - b) Anti-bodies are produced within a day or two of the first tetanus toxoid injection.
  - c) Anemia and malnutrition reduce the levels of proteins in blood but this does not affect the immune response.
  - d) Basically tetanus toxoid and anti-snake venom belong to the same class of immunological drugs.
- 138 Colostrum, the thick lactation in the first two or three days, is good for babies because \_\_\_\_.
- a) it contains protective white blood cells
  - b) it contains protective blood proteins
  - c) being protienous, the milk is highly nutritious
  - d) being rich in fats it is highly nutritious
- 139 The blood groups (A, B, O etc.) are decided by \_\_\_\_.
- a) red blood cells
  - b) the classification of blood cell proteins
  - c) the white cells
  - d) the platelets
- 140 The two kidneys are located \_\_\_\_.
- a) below the navel (umbilicus)
  - b) on the sides of the spine, in the back region
  - c) near the appendix
  - d) close to the liver



- 141 The difference between ureter and urethra is :  
 a) The ureter is only one while there are two urethras  
 b) The urethra is single and ureters are two in number  
 c) Urethra is a left sided structure while ureter is on the right side  
 d) None
- 142 Kidneys are a kind of filters, only that ———.  
 a) the substance passing through the filter is not thrown out.  
 b) the filtrate (the substance that does not pass through) is thrown out  
 c) the substance passing through the filter is thrown out  
 d) some substances from the part that passes through the filter are selectively picked up in the blood again
- 143 Babies keep on passing urine almost any time because ———.  
 a) the urinary bladder is small  
 b) the control on bladder is insufficient  
 c) it is the way babies attract parents' attention  
 d) urine production is comparatively excessive
- 144 Some of the old age illnesses / health problems that have good chances of cure are ———.  
 a) cataract, arthritis, anorexia and loss of memory  
 b) fracture of thigh bone (fracture hip), cataract and loss of teeth  
 c) Loss of teeth, hearing loss and any fracture  
 d) heart disease, arthritis and coughs
- 145 Sexual intercourse (with or without consent) with any girl less than ——— years is termed as rape by law.  
 a) 18  
 b) 16  
 c) 14  
 d) 12
- 146 ——— can not be called as food adulteration.  
 a) Mixing water in milk or removing fat from the milk  
 b) Mixing safflower oil in ground nut oil  
 c) Mixing used tea dust / leaves in tea dust / leaves  
 d) Using less or more sugar in sweets than is acceptable
- 147 Cancerous lymphnode enlargement is ———.  
 a) like rubber  
 b) firm but tender  
 c) stony hard  
 d) soft and tender
- 148 In winter, there is more urine passed since ———.  
 a) there is better blood circulation in winter  
 b) cool weather promotes all physiological activities  
 c) increased digestion (in winter) promotes urine production  
 d) sweating is that much less
- 149 Many drugs color the urine because ———.  
 a) kidneys breakdown most chemical substances next logical  
 b) liver metabolizes most of the chemicals and the step is excretion by kidneys  
 c) most drugs spread and reach kidneys like any other organs  
 d) of unknown reasons
- 150 Urine consists of ———.  
 a) water and salt  
 b) water and urea  
 c) water, salt, urea and yellow pigment  
 d) urea, glucose and water
- 151 The sperms are produced in ———.  
 a) seminal vesicle  
 b) urinary bladder  
 c) the penis  
 d) testicles
- 152 Sperm have ———.  
 a) both X and Y sex chromosome types  
 b) only X chromosomes  
 c) only Y chromosomes  
 d) either X or Y chromosomes at any time

- 153 The sperms can survive in the female genital tract for \_\_\_\_\_.  
 a) 24 hours  
 b) 2 hours  
 c) 48 hours  
 d) 4 days
- 154 If a male has fewer than normal sperms in his semen \_\_\_\_\_.  
 a) there is little adverse effect on the process of fertilization of the ovum  
 b) there are less chances of his fathering a baby  
 c) this need not necessarily compromise fertilization  
 d) the ultimate cause of sterility is the woman
- 155 The male genital organ (penis) enlarges in sexual act due to \_\_\_\_\_.  
 a) penile muscles getting rigid  
 b) infilling of blood in the spongy penile parts  
 c) inflammation  
 d) filling up of the penis with semen
- 156 The volume of semen ejected in a sexual act is about \_\_\_\_\_.  
 a) 5 - 10 ml  
 b) half ml  
 c) 1 ml  
 d) 2 - 3 ml
- 157 Just like the penis, the \_\_\_\_\_ in the woman is sexually very sensitive.  
 a) cervix of uterus  
 b) ovary  
 c) skin surrounding the vaginal orifice  
 d) clitoris
- 158 The average menstrual loss of blood is about \_\_\_\_\_.  
 a) 100 ml  
 b) 200 ml  
 c) 500 ml  
 d) 1 liter
- 159 The real purpose of preventing marriages of girls before 18 years is \_\_\_\_\_.  
 a) family planning and population control  
 b) avoiding pregnancies in young age  
 c) electoral politics  
 d) nothing substantial
- 160 In the female genital tract, the embryo implants in the \_\_\_\_\_.  
 a) fallopian tube  
 b) ovaries  
 c) uterus  
 d) vagina
- 161 Fertilization of the ovum by the sperm occurs in the \_\_\_\_\_.  
 a) uterus  
 b) fallopian tubes  
 c) vagina  
 d) ovaries
- 162 The ovum is usually released from the ovary about \_\_\_\_\_ after the menses.  
 a) 10 to 15 days  
 b) 7 days  
 c) 2 days  
 d) 28 days
- 163 Menstruation is \_\_\_\_\_.  
 a) falling off of the internal lining of the uterus  
 b) shedding of the vaginal mucosa  
 c) expulsion of the secretion of ovaries  
 d) none of a, b or c  
 with blood
- 164 Which of the following statements about ovulation is true ?  
 a) Both ovaries release their ova .  
 b) Only one ovary releases an ovum every month; but the hormones needed come from elsewhere.  
 c) Both the ovum and hormones are produced by the ovaries.  
 d) Ovulation continues even in pregnancy.
- 165 The typical feminine biological characteristics are primarily due to \_\_\_\_\_.  
 a) uterus  
 b) ovary  
 c) fallopian tubes  
 d) vagina



- 166 In women, the urethra opens ———.  
 a) in the vagina  
 b) on the vaginal orifice  
 c) outside vaginal structure  
 d) near cervix of the uterus
- 167 Which of the following statements of is a greater truth ?  
 a) Most of our calories and proteins come from cereals  
 b) Wheat and rice have almost similar protein contents.  
 c) Both carbohydrates and fats are equal in calory supply weight by weight.  
 d) Human beings can survive on cereals alone.
- 168 Women eat less than men (having equal weight) because ———.  
 a) the average weight of women is less than that of men.  
 b) women spend the calories more efficiently  
 c) women work a little less than most men  
 d) it is an old custom over centuries
- 169 Essentially, malnutrition is ———.  
 a) less supply of proteins  
 b) less supply of calories  
 c) diets poor in terms of minerals and vitamins  
 d) all of a, b and c
- 170 A man, performing heavy labour, needs atleast about ——— grains every day.  
 a) 800 grams  
 b) 500 grams  
 c) 1 kilo gram  
 d) half kilo gram
- 171 Although our diets are poor in animal foods, the protein supply from ——— makes it good.  
 a) grains and cereals  
 b) pulses  
 c) vegetables  
 d) potatoes, sweet potatoes and brinjals
- 172 The cheapest way of getting B-complex vitamins is ———.  
 a) reducing the extent of pounding the rice  
 b) inclusion of eggs in the diet  
 c) sheep rearing the milk  
 d) eat fish atleast once a week
- 173 Children need atleast ——— gram proteins per kg. bodyweight.  
 a) 3  
 b) 2.5  
 c) 2  
 d) 1.5
- 174 One can easily and effectively infer the improvement in the nutrition standard by the evidence of ———.  
 a) consumption of wheat instead of rice  
 b) consumption of fruits in the daily diet  
 c) consumption of animal foods  
 d) consumption of fats (oils)
- 175 Fermenting foods are richer in ———.  
 a) vitamin A  
 b) vitamin B  
 c) proteins  
 d) vitamin C
- 176 The various 'tools' necessary to conduct physiological activities in the body are made up of ———.  
 a) calories  
 b) minerals  
 c) proteins  
 d) vitamins
- 177 The principal form of utilization of energy in the body is ———.  
 a) proteins  
 b) glucose  
 c) fats  
 d) vitamins
- 178 The body fats can store ———.  
 a) vitamin A and B  
 b) vitamin D and C  
 c) vitamin A, B and D  
 d) vitamin A and D
- 179 ——— vitamins are water soluble and hence washed out in urine.  
 a) A, B and C  
 b) C, B and D  
 c) E, C and A  
 d) A and D

- 180 Cooking vegetables without coverlid destroys — vitamin .  
a) A and C b) D  
c) B d) E
- 181 That vegetables are cut before washing, ———.  
a) is bad because some vitamins are lost b) is good because some pesticides are washed out  
c) is generally good d) involves both a and b
- 182 The practice of throwing off water from boiling rice entails loss of vitamin ———.  
a) A b) B  
c) C d) D
- 183 Cracked lips and a red tongue speak of ——— vitamin deficiency.  
a) A b) B  
c) C d) D
- 184 Vitamin D - deficiency causes rickets in children and ——— in pregnant women.  
a) weakening of bones b) fractures  
c) anemia d) a, b and c
- 185 Children about 2 to 3 years age usually do not suffer from rickets because ———.  
a) the diets do have some animal foods b) calcium supplies are ensured with cereals  
c) sunlight promotes vitamin D manufacture d) children of this age start eating more food in the skin
- 186 Occurrence of disease is an interplay of the three factors, viz, host, environment and ———.  
a) genetics b) viruses  
c) living standard d) disease agents
- 187 Most illnesses are due to ———.  
a) heredity b) germs  
c) structural deformities d) functional disturbances
- 188 Illnesses striking us from the outside environment usually affect ——— systems / organs.  
a) digestive, respiratory and nervous b) digestive, skin and blood  
c) respiratory, skin and endocrine d) skin, respiratory, digestive and eye - ear
- 189 Which of the following statements about causation of diseases is true ?  
a) In a way; genetic, functional and degenerative illnesses are 'endogenous' (coming from within the body). b) Genetic illnesses can also spread in the community.  
c) Every disease caused by germs is necessarily infectious. d) Most of the illnesses are automatically prevented by rise of living standard.
- 190 Which of the following sets is closely related to inflammation ?  
a) Trauma, infections, functional and degenerative illnesses. b) Infections, allergies and injuries.  
c) Cancers, infections and genetic illnesses. d) Infections and functional disorders.
- 191 Cervical lymphadenitis is ———.  
a) a lymph gland illness caused by germs b) an endocrine disease because of undernutrition  
c) an infectious illness of skin d) an infection of the throat
- 192 Ascitis is often due to ———.  
a) a urinary tract infection b) a structural disorder of the digestive system  
c) functional disorder of blood d) malnutrition of the digestive system



- 193 Hemiplegia is essentially \_\_\_\_\_.  
 a) a functional disorder of muscles  
 b) a functional disorder of bones and skeleton  
 c) a disorder of the nervous system  
 d) a structural disorder of circulation
- 194 Hypertension is \_\_\_\_\_.  
 a) a functional disorder of blood  
 b) a functional disorder of circulatory system  
 c) an overnutritional disease of the nervous system  
 d) an infection of blood
- 195 Malaria is mainly \_\_\_\_\_.  
 a) an infection of the digestive system  
 b) an infection of lymphatic system  
 c) an infection of blood  
 d) a weather effect on blood system
- 196 Filariasis is \_\_\_\_\_.  
 a) a disease of muscle malnutrition  
 b) an infection of skin  
 c) an infection of lymphatics  
 d) an infectious disorder of the circulatory system
- 197 Pleural effusion is due to \_\_\_\_\_.  
 a) a structural defect of circulatory system  
 b) an infection of blood  
 c) an infection of the respiratory system  
 d) a functional disorder of the respiratory system
- 198 Acid peptic disease is \_\_\_\_\_.  
 a) an infection of the digestive system  
 b) a functional disorder of the digestive system  
 c) a functional disorder of the respiratory system  
 d) an undernutrition of digestive system
- 199 'Chikhalya' (foot dermatitis seen in the rice field workers) is \_\_\_\_\_.  
 a) a skin infection  
 b) an allergic skin disorder  
 c) an infection of the lymphatic system  
 d) an infection of the muscle
- 200 Leprosy is \_\_\_\_\_.  
 a) an infection of skin and nerves  
 b) an infection of skin  
 c) an infection of the nervous system  
 d) a genetic illness of skin
- 201 Inflammation is normally aimed against \_\_\_\_\_.  
 a) the germs  
 b) germs and allergens  
 c) germs, allergens and trauma  
 d) germs, allergens, trauma and cancer
- 202 The factors seen in the inflammatory process are \_\_\_\_\_.  
 a) pain, redness, tenderness, warmth and itch  
 b) tenderness, redness, swelling, warmth and itch  
 c) redness, tenderness, swelling, warmth and slowing of local physiological processes  
 d) redness, itch, tenderness and lymph gland swelling
- 203 Inflammation is not related to \_\_\_\_\_.  
 a) cancers, allergy and functional diseases  
 b) functional diseases and cancers  
 c) genetic, functional and allergic illnesses  
 d) congenital illnesses, malnutrition and allergies
- 204 Chronic inflammations are found in \_\_\_\_\_.  
 a) pneumonia, whooping cough and tuberculosis  
 b) leprosy, tuberculosis and parasitic cough  
 c) abscess, pneumonia and hepatitis  
 d) jaundice - hepatitis, cholera and diarrhea
- 205 Which of the following statements about inflammation is true ?  
 a) Pus commonly occurs as an end result of some acute bacterial infections.  
 b) Chronic inflammations do not involve white blood cells.  
 c) Inflammation can be caused only by germs and allergens.  
 d) The lymph gland swelling after wounds is not related to inflammation.

- 206 Which of the following statement is true ?  
 a) An illness will worsen if the process of inflammation is not arrested.  
 b) Inflammation is beneficial to the body to some extent.  
 c) Inflammation occurs only in skin and no other place.  
 d) All inflammations are accompanied by fever.
- 207 Which of the following statements is true ?  
 a) A wheal arising from an insect bite is essentially inflammation.  
 b) The skin patches of leprosy are painless and hence can not be called as inflammatory conditions.  
 c) Inflammation can be found even in organs that have no blood supply.  
 d) Whenever there is inflammation, there is lymphadenitis.
- 208 When the process of inflammation is nearing completion, ——— heal(s) the area.  
 a) proteins  
 b) white cells  
 c) connective tissue  
 d) blood
- 209 Which of the following statements about immunity is true ?  
 a) Immunity means just white cells.  
 b) Immunity can be less or more according to the type of germs.  
 c) The breast milk and mothers blood confer immunity to the baby against all kinds of infections.  
 d) A physically strong person is naturally immune to all kinds of infections.
- 210 Among germs, ——— are not affected by anti-infective drugs.  
 a) bacteria  
 b) viruses  
 c) worms  
 d) amoeba
- 211 The smallest of the germs are ———.  
 a) bacteria  
 b) amoeba  
 c) viruses  
 d) microorganisms
- 212 ——— is an effective anti-amoebic drug.  
 a) Cotrimoxazole  
 b) Metronidazole  
 c) Mebendazole  
 d) Furazolidine
- 213 If anti-infective drugs are administered in either low doses or for inadequate periods (than is prescribed) ———.  
 a) lot of funds will be saved in health care  
 b) other illnesses might crop up  
 c) micro-organisms may become resistant to these drugs.  
 d) the recovery period is more than what is due
- 214 Which of the following statements about living standard is true ?  
 a) Rise of living standard prevents all diseases.  
 b) Rise of living standard prevents malnutrition and infections.  
 c) Birth rate and living standard are two unrelated things.  
 d) There can be no health action of any kind unless there is improvement in life.
- 215 Considering all things, the best kind of drinking water is really ———.  
 a) from borewell  
 b) rain water before it falls on the ground  
 c) from streams  
 d) stale water
- 216 The main problem with borewell water is ———.  
 a) contamination with germs  
 b) high salt / mineral content  
 c) both germs and minerals  
 d) queer taste





- 217 Which of the following statement about a borewell is true ?  
 a) Borewell water is always potable. b) Even borewell water can get contaminated while being pumped out.  
 c) It is better to put bleaching powder in the borewell everyday. d) It is not necessary to test borewell water in laboratory
- 218 In a village the per capita need of water is around \_\_\_\_\_.  
 a) 10 liters b) 25 liters  
 c) 40 liters d) 100 liters
- 219 How does drinking water get contaminated ?  
 a) By keeping uncovered. b) Due to staleness.  
 c) Contact with human and animal waste. d) By stagnation.
- 220 To prevent foul smell and insect breeding in latrine pits, \_\_\_\_\_ is necessary.  
 a) using plenty of water b) always keeping the latrine door closed  
 c) frequent cleaning of the pits d) using bent pipe water seals in the construction .
- 221 Which of the following sets of functions is not applicable to a primary health center ?  
 a) Family planning, immunization, malaria control. b) Leprosy control, tuberculosis control and control of diarrhoeal diseases.  
 c) Health education, maternal health, prevention of blindness, registration of births and deaths. d) Propagation of herbal medicines, treatment of sterility, medical termination of pregnancy.
- 222 Which of the following statements is wrong ?  
 a) It is a duty of the village nurse to assist in child birth. b) It is mandatory to pay the medical officer of the primary health center for medicolegal examination.  
 c) Primary health centers are operated by panchayat samitis (block development communities). d) Control of epidemics is a duty of primary health centers.
- 223 Of the following, \_\_\_\_\_ set of functions is not expected from the village nurse.  
 a) treating the sick patients, first aid in accidents b) conducting deliveries, immunization, birth and death registration and disinfection of wells  
 c) health education, taking blood smears for malarial parasite, family planning d) inserting copper T and issuing medical certificates
- 224 The main program of the IIFA 2000 is \_\_\_\_\_.  
 a) universal immunization for 6 important childhood diseases, reduce IMR to 50, raising life expectancy to 60 years and provision of safe drinking water to all people. b) a birth rate of 30, death rate of 15, universal immunization and eradication of AIDS.  
 c) reducing IMR to 20, a birth rate of 25, universal immunization and provision of safe drinking water to all people d) implementation of the village health worker scheme and the training of birth attendants in all the villages
- 225 Infant Mortality Rate (IMR) is \_\_\_\_\_.  
 a) deaths of children below 5 years per thousand population per annum b) death rate of infants below one week of age.  
 c) the dying rate of infants below one year, among every thousand live births d) the proportion of stillborn babies to liveborn babies
- 226 The population growth rate of a village depends upon \_\_\_\_\_.  
 a) births and deaths b) births, deaths and illnesses  
 c) births, deaths and family planning operations d) births, deaths and movement of people in and out of the village

- 227 Which of the following statements about population growth is correct ?  
 a) If the nutrition is good, there is first rise of average height and then the average weight  
 b) Good nutrition immediately improves average weight but gain in average height may come only in the next generation.  
 c) The health of a community is directly proportional to the average weight.  
 d) There is little relation between average birth weight and general health status of the community.
- 228 Wearing shoes as a measure of preventing snakebites can be called as \_\_\_\_\_.  
 a) general health promotion  
 b) personal protective measure  
 c) early diagnosis and prompt treatment  
 d) ordinary prevention
- 229 An illness that can be effectively overcome by early diagnosis and prompt treatment is \_\_\_\_\_.  
 a) polio myelitis  
 b) measles  
 c) leprosy  
 d) worm infestations
- 230 Rise of living standard will surely control \_\_\_\_\_ illness.  
 a) colds  
 b) scabies  
 c) pneumonia  
 d) hypertension
- 231 Which of the following statement is true ?  
 a) Most illnesses can be prevented.  
 b) The leaner the person the more sturdy (s)he is.  
 c) Every illness need not be treated with medicines.  
 d) Most illnesses are inevitable.
- 232 Which of the following statements is wrong ?  
 a) The best measure against malnutrition is health education.  
 b) Some illnesses are related to cast / tribe to some extent.  
 c) Biologically women are sturdier than men.  
 d) There is some difference between illnesses of poor and affluent communities.
- 233 Diagnosis means \_\_\_\_\_.  
 a) knowing the cause of a disease  
 b) knowing the site / organ of the disease  
 c) knowing the future course of the disease  
 d) all a, b and c.
- 234 The essential difference between a sign and a symptom is \_\_\_\_\_.  
 a) a symptom has to be detected while a sign is apparent.  
 b) a symptom is what the sick tells you while a sign is detected by the healing person  
 c) a symptom is self evident while the sign is hard to identify.  
 d) nothing very distinct
- 235 A general examination involves \_\_\_\_\_.  
 a) examining pulse etc.  
 b) examining pallor and pulse etc.  
 c) examination conducted for common and important illnesses found in the community  
 d) check up without using hands, like inspection
- 236 One illness that people rarely complain about is \_\_\_\_\_.  
 a) worms  
 b) scabies  
 c) tuberculosis  
 d) anemia
- 237 Some illnesses that have to be specially searched for in general examination are \_\_\_\_\_.  
 a) scabies, ringworm and sexually transmitted diseases.  
 b) leprosy, hypertension, anemia and tuberculosis  
 c) Kwashiorkor, jaundice and white discharge  
 d) arthritis, mental illnesses, tonsillitis and ear discharge
- 238 Fever is encountered in illnesses of all systems except (Rf. Manual) \_\_\_\_\_.  
 a) skin  
 b) nervous system  
 c) eye  
 d) ear



- 239 Which of the following statements about fever is wrong ?  
 a) The fever of typhoid is not alleviated by aspirin or paracetamol.      b) High fever can affect a child's brain.  
 c) Low fever need not be considered for giving anti-fever drugs.      d) Low fever implies that the illness is minor.
- 240 Which of the following statements about fever is true ?  
 a) Fever is helpful to the body to some extent.      b) A fever coming every day is usually not malaria.  
 c) Fever with rigors should be treated as malaria.      d) The axillary and oral temperature is always the same.
- 241 The two major groups in fever related illnesses are \_\_\_\_\_.  
 a) those with or without headache      b) those with or without bodyache  
 c) those with or without abdominal pain      d) those with or without cough
- 242 Apart from the respiratory system, a cause of cough can be found in \_\_\_\_\_ system.  
 a) digestive      b) nervous  
 c) larynx      d) circulatory / cardiovascular
- 243 In case of abdominal pain, one should think of \_\_\_\_\_ from the following groups of systems / organs.  
 a) digestive, urinary and genital      b) respiratory, circulatory, lymphatic and digestive  
 c) nervous, muscular, genital and digestive      d) digestive, respiratory and nervous
- 244 The commonest cause of 'weakness' is \_\_\_\_\_.  
 a) asthma      b) heart disease  
 c) anemia      d) dehydration
- 245 Which of the following groups are closely related to chest pain ?  
 a) Bones -joints, muscles, respiratory, circulatory and digestive systems.      b) Bones - joints, muscles, respiratory, digestive and lymphatic systems.  
 c) Muscles, bones, respiratory, digestive and skin systems.      d) Respiratory, digestive, circulatory and endocrine systems.
- 246 A throbbing pain is \_\_\_\_\_.  
 a) squeezing of muscles      b) internal body pain  
 c) pain that may be less or more      d) pain recurring with heart beats
- 247 Burning pain is \_\_\_\_\_.  
 a) suggestive of irritation of internal linings of organs      b) is a pain of oxygen lack in tissues  
 c) a stretching pain      d) due to squeezing of muscles
- 248 The tenderness in jaundice is found \_\_\_\_\_.  
 a) below the right lower ribs      b) below the left lower ribs  
 c) around umbilicus (navel)      d) on urinary bladder
- 249 Neck rigidity is found in \_\_\_\_\_.  
 a) meningitis / encephalitis      b) any disease of neck region  
 c) mental illnesses      d) pneumonia or tuberculosis
- 250 In rheumatic fever \_\_\_\_\_.  
 a) the joint illness component is more important      b) the cardiac illness is more important  
 c) there is a permanent brain damage      d) both joints and heart are permanently damaged

- 251 Which of the following statement about fever is true ?  
 a) Most fever illnesses are due to some infection. b) Viral fevers are most common among all fever illnesses.  
 c) More of the fever illnesses are bacterial in origin. d) Fever is always present in all infective illnesses.
- 252 Every degree (F) rise of temperature is attended by a rise of — in pulse count per minute.  
 a) 5 b) 1  
 c) 20 d) 10
- 253 While palpating liver —.  
 a) nothing is felt unless it is swollen b) it is always felt in even healthy children under 5 Yrs. of age  
 c) it is always felt at fingers even during health d) it is felt only in infants (under one year) in health and not in healthy older persons
- 254 When sign / symptom is mentioned as 'always present - (A)' in the diagnostic table, the implication is that —.  
 a) the person definitely has the illness b) this feature is always found in this illness  
 c) it is found in illnesses that are always (commonly) encountered d) it is found 75 percent of the cases of the illnesses
- 255 In a diagnostic table, the sure factor(s) of that disease is mentioned as (are) —.  
 a) 'always' (A) b) 'commonly' (C)  
 c) special features d) a or c
- 256 In the diagnostic table the sign of two asterisks ( \* \* ) implies that —.  
 a) it is a serious illness and must be referred to higher medical care at once b) it is a minor illness and can be treated in the village  
 c) it is a moderate illness, can be treated in the village but caution and watchfulness are necessary d) the patient should be sent to the hospital after due first aid
- 257 Medications that are meant for external application are different from the ones that can be consumed orally because —.  
 a) the former is an ointment b) there is no fixed dosage or time schedule for its administration  
 c) there are no side effects or hypersensitive reactions to ointments d) these are not absorbed through the skin
- 258 Aspirin is effective by way of —.  
 a) anti-infective properties b) changing processes in the body  
 c) supplying deficient factors to the body d) all a, b and c
- 259 Ferrous sulfate (iron) tablets work by —.  
 a) anti-infective properties b) changing body functions  
 c) providing deficient factors to the body d) all a, b and c
- 260 Medicines reach tissues through —.  
 a) veins b) arteries  
 c) capillaries d) lymphatics
- 261 The matter of frequency of dosage of a medicine depends upon —.  
 a) age of the person b) whether it is tablet or injection  
 c) the period of stay of that drug in blood d) whether the illness is minor or serious





- 274 Before administering a medication, the important step is \_\_\_\_\_.  
 a) to have a word with the patients b) make diagnosis of the disease  
 c) to advise about preventing the illness d) health education
- 275 One must not use aspirin in case of \_\_\_\_\_.  
 a) acidity, peptic ulcer or asthma b) adults  
 c) high fever d) menstrual problems
- 276 The principal difference between aspirin and paracetamol is that \_\_\_\_\_.  
 a) aspirin reduces respiration but not so paracetamol b) paracetamol is more effective than aspirin  
 c) aspirin is useful in all the age groups d) aspirin can be used in pregnancy but not paracetamol
- 277 One must avoid metronidazole if there is \_\_\_\_\_.  
 a) acid peptic disease of stomach, alcoholism b) colitis  
 c) high fever d) vaginitis
- 278 \_\_\_\_\_ is safe in pregnancy.  
 a) Paracetamol b) Metronidazole  
 c) Sulfa drugs d) Tetracycline
- 279 Among the following groups, \_\_\_\_\_ offer only symptomatic relief and no real cures.  
 a) paracetamol, CPM, metronidazole b) aspirin, cotrimoxazole, whitfield ointment  
 c) paracetamol, codeine, CPM d) codeine, aspirin, salbutamol
- 280 Which of the following statements is true ?  
 a) Aminophylline and salbutamol offer only symptomatic relief. b) Codeine is useful only in case of dry (unproductive) cough.  
 c) Tetracycline is especially useful in children. d) Chlorquine is effective against many types of micro-organisms.
- 281 Which of the following statements about mental illnesses is wrong ?  
 a) Most of the mental illnesses are hereditary. b) Possession is a very common problem in village women.  
 c) Many familial and social factors contribute to mental illnesses. d) Alcoholism is a type of mental illness.
- 282 Which of the following statements is correct ?  
 a) Schizophrenia is a major psychiatric illness. b) Mental illnesses are usually incurable.  
 c) Electric shock treatment is essential in most mental illnesses. d) Most of the mentally ill patients need institutional (mental hospital) care.
- 283 Jaw spasm is essentially a \_\_\_\_\_.  
 a) mania b) possession syndrome  
 c) kind of depressive illness d) hysterical illness
- 284 It is best to treat alcoholism in the \_\_\_\_\_ stage.  
 a) habitual consumption b) occasional consumption  
 c) dependence d) any of a, b or c
- 285 Alcohol does not damage \_\_\_\_\_.  
 a) liver and brain b) stomach and nervous system  
 c) heart and blood vessels d) small intestines and urinary system
- 286 Alcoholism causes many illnesses except \_\_\_\_\_.  
 a) loss of sensations in limbs b) hepatitis and ascitis  
 c) hypertension d) acid peptic disease



- 287 The first ever clue of pregnancy is \_\_\_\_\_.  
 a) morning sickness  
 b) missing periods  
 c) enlargement of uterus  
 d) growth of breasts
- 288 To recognize pregnancy on abdomen, it should be atleast \_\_\_\_\_.  
 a) 2 months  
 b) 6 months  
 c) 4 months  
 d) 5 months
- 289 The safe upper limit for medical termination of pregnancy is \_\_\_\_\_ after missing the periods.  
 a) 1 month  
 b) 2 months  
 c) 4 months  
 d) 6 months
- 290 In pregnancy, internal examination reveals a \_\_\_\_\_ uterus.  
 a) firm and biggish  
 b) biggish and soft  
 c) big and hard  
 d) queer size
- 291 To estimate the due / expected date of pregnancy (EDD) from the last date of menstrual period, one has to count \_\_\_\_\_.  
 a) 9 solar months and 7 days  
 b) 9 solar months and 10 days  
 c) 9 lunar months and 7 days  
 d) full 9 months
- 292 Pregnancy in young girls / women leads to \_\_\_\_\_.  
 a) faster population growth  
 b) physical damage to womens' bodies  
 c) threats in both pregnancy and child birth  
 d) all of a, b and c
- 293 \_\_\_\_\_ minerals must be provided extra in pregnancy.  
 a) Iron and calcium  
 b) Iron and iodine  
 c) Calcium and iodine  
 d) Iron, calcium and salt
- 294 In lactational stage, mothers should have \_\_\_\_\_ times the usual protein supply.  
 a) two  
 b) one and half  
 c) one and a quarter  
 d) two and half
- 295 When the pregnant uterus reaches the umbilicus (navel), the pregnancy is already \_\_\_\_\_ old.  
 a) 5 months  
 b) 4 months  
 c) 7 months  
 d) 6 months
- 296 Foetal movements are first felt in the \_\_\_\_\_ week.  
 a) 12th  
 b) 16th  
 c) 20th  
 d) 24th
- 297 Repeated abortions imply \_\_\_\_\_.  
 a) that there is little that can be done for cure  
 b) that both husband and wife undergo health check up  
 c) that the woman should get her blood examined for anemia and malaria  
 d) that the husband should undergo physical check up
- 298 Habitual abortion is more than \_\_\_\_\_ successive abortions.  
 a) 2  
 b) 3  
 c) 4  
 d) 5
- 299 Which of the following statements is true ?  
 a) Habitual abortions imply that something is wrong with the woman's reproductive system.  
 b) Some embryos are naturally rejected since there is something inherently wrong with them.  
 c) It is not possible to detect incompetent (lax) os uterus in the first trimester of pregnancy.  
 d) Abortions after 7 months of pregnancy are called as 'late abortions'.

- 300 Following are some statements about common complaints in pregnancy; of which — is wrong.
- a) nausea and vomiting of the first trimester stop soon but their continuation in the second trimester should alert us for expert intervention.
  - b) pregnancy - piles are self limiting and vanish with the child birth.
  - c) the bodyaches and backaches of pregnancy are due to laxity of joints (due to hormones) and drain on calcium stores
  - d) the white discharge in pregnancy is due to a type of vaginitis
- 301 If there is bleeding in pregnancy with the os (opening of uterus) closed, it is —.
- a) inevitable abortion
  - b) threatened abortion
  - c) missed or incomplete abortion
  - d) septic abortion
- 302 If there is antenatal bleeding with the os open and associated abdominal pain, it is —.
- a) threatened abortion
  - b) inevitable abortion
  - c) complete abortion
  - d) missed or incomplete abortion
- 303 Abortion is comparatively — as compared to child birth.
- a) less dangerous
  - b) more dangerous
  - c) not more dangerous
  - d) innocuous
- 304 In government MTP centers —.
- a) only married women can avail of the services
  - b) services are offered only in case of failure of contraception
  - c) married women are served on a priority as compared to unmarried girls
  - d) there is no question of marital status of the women
- 305 Legal MTP can be performed only upto — weeks.
- a) 12
  - b) 24
  - c) 16
  - d) 20
- 306 About abortions, which of the following statements is wrong ?
- a) Criminal and clandestine abortions have no place these days.
  - b) There is absolutely no risk in medical abortions.
  - c) For MTPs, both the center and the doctor need valid registration under the MTP act.
  - d) There are different procedures for termination of pregnancies below and above 12 weeks.
- 307 About abortions and abortifacient injections, which of the following statements is true ?
- a) An 'intramuscular' injection can never effect abortion.
  - b) Menstruation returns soon after an 'intramuscular' injection irrespective of whether the woman is pregnant or not.
  - c) the 'intramuscular' injection does not harm the embryo anyway.
  - d) the injection is best taken from a doctor, if there is a must.
- 308 In the first trimester of pregnancy, sudden abdominal pain, with or without bleeding episode, one must think of —.
- a) acute appendicitis
  - b) ureteric stone
  - c) inevitable abortion
  - d) ectopic pregnancy
- 309 Prenatal sex determination is bad because —.
- a) it can cause abortion
  - b) sex determination may go wrong
  - c) it is not proper to discriminate between sons and daughters
  - d) it will reduce the number of girls available for marriages a generation hence
- 310 If there is edema on feet in pregnancy, the possibility is that —.
- a) this can lead to severe anemia
  - b) this can lead to convulsions in child birth
  - c) increased weight severely incapacitates the woman.
  - d) None of a, b or c



- 311 In pregnancy, edema on feet with raised blood pressure implies \_\_\_\_\_.  
 a) the foetal growth is likely to be less than normal  
 b) child birth is risky  
 c) premature delivery  
 d) any of a, b or c
- 312 Antepartum (in pregnancy) vaginal bleeding without abdominal pain should be interpreted as \_\_\_\_\_.  
 a) no particular risk  
 b) the placenta is on the os cervix, life is at risk  
 c) the process of abortion  
 d) ectopic pregnancy
- 313 In child birth, generally \_\_\_\_\_ comes out first.  
 a) head  
 b) feet  
 c) chin  
 d) placenta
- 314 In primipara mothers, the head of the foetus should engage in the pelvis by \_\_\_\_\_ week.  
 a) 30th  
 b) 36th  
 c) 40th  
 d) 42nd
- 315 The 'head entry' in the pelvis is known as \_\_\_\_\_.  
 a) crowning  
 b) engagement of head  
 c) the first stage of labour  
 d) the second stage of labour
- 316 In the last month of pregnancy, the child should be \_\_\_\_\_.  
 a) head down  
 b) feet down  
 c) horizontal  
 d) any way except horizontal
- 317 The difference between primiparous and multiparous mothers is that \_\_\_\_\_.  
 a) in the former child birth is difficult because of poorly relaxed birth canal  
 b) there is no 'entry of head' in the pelvis in the primipara till the very beginning of child birth  
 c) there is no risk in multiparous mothers  
 d) every primiparous mother experiences a lot of difficulty in child birth
- 318 From the onset of labour pains in a primiparous mother, the whole process of childbirth should take about \_\_\_\_\_ hours.  
 a) 18  
 b) 24  
 c) 36  
 d) 48
- 319 After baby, the placenta should be expelled within \_\_\_\_\_ time or there is a risk of postpartum bleeding.  
 a) 20 minutes  
 b) 30 minutes  
 c) one hour  
 d) one and half hours
- 320 A newborn's primary need is \_\_\_\_\_.  
 a) starting of cardiac activity (heart activity)  
 b) respiration  
 c) suckling  
 d) tying the umbilical cord
- 321 After birth, baby should pass motions within \_\_\_\_\_.  
 a) 24 hours  
 b) 4 hours  
 c) 48 hours  
 d) 12 hours
- 322 Child can hold its neck by \_\_\_\_\_ month(s).  
 a) 1  
 b) 2  
 c) 3  
 d) 4
- 323 Child can sit by itself without support by \_\_\_\_\_ months.  
 a) 4  
 b) 5  
 c) 6  
 d) 8

- 324 A child should walk without support by \_\_\_\_\_.  
 a) 10 months  
 b) 1 year  
 c) 15 months  
 d) 18 months
- 325 A child starts uttering words like 'da-da, ba-ba' by \_\_\_\_\_.  
 a) 5th month  
 b) 8-9 months  
 c) 1 year  
 d) 18 months
- 326 A pulsating anterior fontanelle is \_\_\_\_\_.  
 a) suggestive of serious health risk to the baby  
 b) a normal thing  
 c) risky at times  
 d) suggestive of some brain disease
- 327 If the birth weight is 2.5 kg., the baby should weigh \_\_\_\_\_ at the end of four months.  
 a) 3 kg.  
 b) 5 kg.  
 c) 4 kg.  
 d) 7.5 kg.
- 328 If the birth weight is 2.5 kg., the child should weigh around \_\_\_\_\_ by the end of one year.  
 a) 5 kg.  
 b) 7.5 kg.  
 c) 10 kg.  
 d) 8 kg.
- 329 In the \_\_\_\_\_ month, mother's milk alone is not enough for the baby.  
 a) 3rd  
 b) 4th  
 c) 5th  
 d) 6th
- 330 The main drawback of bottle feeding is \_\_\_\_\_.  
 a) air swallowing by the baby  
 b) improper feeding of the baby  
 c) habit formation  
 d) entry of germs in the baby's intestines
- 331 Vitamin A doses should be given every \_\_\_\_\_ months to avoid nightblindness in children.  
 a) 6  
 b) 4  
 c) 3  
 d) 2
- 332 BCG immunization should be given at \_\_\_\_\_ at the earliest.  
 a) 2-4 days after birth  
 b) the first month  
 c) three months  
 d) six months
- 333 It takes about \_\_\_\_\_ for complete healing and scabbing off of the BCG immunization.  
 a) six weeks  
 b) two weeks  
 c) three weeks  
 d) four weeks
- 334 In the double toxoid vaccine, the \_\_\_\_\_ component of triple vaccine is missing.  
 a) whooping cough  
 b) polio  
 c) tetanus  
 d) diphtheria
- 335 A baby is 'premature' when it is less than \_\_\_\_\_ in the mother's womb.  
 a) 7 months  
 b) 30 weeks  
 c) 34 weeks  
 d) 37 weeks
- 336 A 'low birth weight baby' is one with birth weight less than \_\_\_\_\_.  
 a) 2200 gms  
 b) 2500 gms  
 c) 2000 gms  
 d) 2400 gms
- 337 The most important factor contributing to low birth weight in our country is \_\_\_\_\_.  
 a) undernourished mother  
 b) multiple children in the family  
 c) premature delivery  
 d) small sized placenta



- 338 A premature baby of 28 - 32 weeks needs hospitalization to survive, but you can save a 32 -37 weeks baby by taking special care which is——.
- a) warmth, humidity and medicines      b) warmth, humidity, nutrition and cleanliness  
c) warmth, humidity and top milk feeds      d) warmth, humidity and identifying risks illnesses
- 339 Which of the following statements is wrong ?
- a) All childhood diarrhoeas are infective in nature.      b) In childhood diarrhoeas, it is more important to prevent dehydration than trying to stop the motions.  
c) Atleast 50 % of childhood diarrhoeas are viral in origin.      d) Dysentery with blood and mucous has to be treated with anti-bacterial drugs.
- 340 Which of the following statements is correct ?
- a) Oral rehydration is of little use in childhood diarrhoea when the baby is already vomiting      b) The water for preparing ORS has to be boiled and cooled before use.  
c) There is no need to start ORS on the first day of childhood diarrhoea.      d) Intravenous saline is needed only when there is extreme dehydration in childhood diarrhoea.
- 341 In childhood diarrhoeas, —— is understood as moderate or second stage dehydration.
- a) a dry tongue, thirst      b) a dry tongue and eyes  
c) slow return of skinfold, sunken eyeballs and fontanelle      d) a weak pulse and excessively sleepish child
- 342 In medicolegal sense, loss of teeth (in an injury) is termed as ——.
- a) simple injury      b) serious, cognizable injury  
c) minor injury      d) bailable injury
- 343 Canceris——.
- a) a disease of blood cells      b) uncontrolled and dangerously growing cells  
c) a kind of infection      d) a congenital illness
- 344 The commonest cancer in our country is ——.
- a) cervix of uterus, tongue and mouth      b) breast and lungs  
c) stomach and trachea      d) bones and blood
- 345 The first stage of cancer is ——.
- a) formation of a cancerous tumor or ulcer, limited to the tissue of origin      b) involvement of local lymphnodes by cancer cells  
c) spread of cancer through blood stream      d) involvement of surrounding organs / tissues by cancer cells
- 346 Smoking is closely linked with cancer of ——.
- a) lung      b) mouth and tongue  
c) blood      d) stomach

## ANNEXURE 4

### LIST OF SKILLS FOR RECOMMENDED FOR HEALTH WORKERS

#### A) DIAGNOSTIC SKILLS

- 01) Measuring temperature with a) Mercury thermometer b) Fever thermostrip.
- 02) Using fever diagnostic guide (for adults).
- 03) Clinical Examination of throat and jugular lymphnodes.
- 04) Counting breaths in ARI patients.
- 05) Diagnosing yellow tinge on sclera.
- 06) Diagnosing liver tenderness.
- 07) Testing for neck rigidity.
- 08) Examination of urine for neck turbidity.
- 09) Detecting or testing anesthesia on skin patches.
- 10) Identifying a) flat patches b) raised thick patches of leprosy.
- 11) Checking tender nerves at six sites for leprosy
- 12) Diagnosis and grading of dehydration in a) adults b) babies.
- 13) Mapping internal organs on abdomen and relating pain with organs.
- 14) Eliciting tenderness test (tapping) on frontal and maxillary sinus sites.
- 15) Percussion on lung fields for detecting a) solidification b) fluid in chest.
- 16) Diagnosis of crepitation on lung auscultation.
- 17) Diagnosis of rhonchi on lung auscultation.
- 18) Detecting wound / ulcer on cornea.
- 19) Detecting cataract, early and mature stages.
- 20) Care of ear with pus discharge (H<sub>2</sub>O<sub>2</sub>) and drying with cotton.
- 21) Detecting precancerous patch in mouth / tongue.
- 22) Detecting cervical tubercular adenitis.
- 23) Detecting malnutrition in under 5 babies with an arm band.
- 24) Weighing babies, marking on growth charts and grading nutritional status.
- 25) Detecting early sign of poisonous snakebites a) drooping b) bleeding gums.
- 26) Identification of poisonous snake type.
- 27) Diagnosing cause of headache from diagnostic guide / chart.
- \*\* 28) Examining testicles for site / swelling / tenderness.
- 29) Body mapping for lungs, pleura, trachea, heart, diaphragm.
- 30) Counting pulse and locating at 6 sites (near ear, carotids in neck, femorals, cubital-brachial, radials in wrist, in foot).
- 31) Demonstrating veins with tourniquet or cough.
- 32) Measurement of blood pressure in arms.
- 33) Examining for light reflex in eyes.
- 34) Identifying parts of the external section of eye - the lacrimal glands, conjunctiva, cornea, iris-muscle, lens, the lacrimal sac.
- 35) Examining the six sites for lymphadenitis - groins, armpits, neck (on both sides).
- 36) Mapping female genital organs on body-model / diagram.
- 37) Locating / assigning a disease / ailment to correct slot on the system - cause disease table.
- 38) Classifying illnesses encountered into minor / moderate / serious categories.
- 39) Use of diagnostic flow chart / table for Cough.



- 40) Use of diagnostic flow chart / table for loose motions.
- 41) Use of diagnostic flow chart / table for Headache.
- 42) Use of diagnostic flow chart / table for Abdominal pain.
- 43) Identifying pallor on nails / tongue / eyes for anemia detection.
- 44) Detecting stoppage of urine formation from retention.
- 45) Detecting edema on feet.
- \* 46) Examination of vagina, cervix in women.
- \* 47) Examination of pregnant women with respect to heart sounds of the baby, baby position, period in months.
- \* 48) Examination of breasts for lump / tumor and lymphatic glands in armpits.

## B) THERAPEUTIC SKILLS

- 01) Giving steam inhalation at home for chronic respiratory ailments.
- 02) Stopping bleeding from wounds by a) pressure b) artery forceps.
- 03) a) Cleaning and b) Dressing of a wound.
- 04) Use of Hydrogen peroxide for dirty / purulent wounds.
- 05) Preparing wound healing oil from Neem leaves.
- 06) Preparing Oral Rehydration Fluid at home.
- 07) Nasal cleansing - Jalneti - with saline water.
- 08) Care of ear with pus discharge (use of H<sub>2</sub>O<sub>2</sub> and cotton for drying).
- 09) Ankle bandage for sprain.
- 10) Gentian violet application for vaginitis / Herbal douche.
- 11) Hot sponging for urine retention.
- 12) Suction cleansing of nostrils and throat of the newborn.
- 13) Cutting and tying umbilical cord.
- 14) Washing dog-bite wounds with soap water.
- 15) Applying turmeric powder on tonsils in children.
- 16) Applying tourniquet for snakebite.
- 17) Bleeding the snakebite for removing poison.
- 18) Treatment of scorpion bite (applying drumstick gum / mud).
- 19) Treating insect bite wheal with mud - therapy.
- 20) Treating minor phimosis with oil massage.
- 21) Tepid sponging for fevers.
- 22) Preparing 10 herbal remedies of local relevance.
- 23) Puncturing and draining minor abscess.
- 24) Selecting women for advising oral pills (use of checklist).
- 25) Syringing an ear for removal of wax.
- 26) Giving an oil syringe to remove fecoliths (hardened stools) in a child's anus.
- 27) Inducing vomiting with salt water in oral poisoning.

## OTHER SKILLS

- 01) Preparing at least one supplementary food for malnourished children.
- 02) Disinfection of well.
- 03) Disinfection of water in home stocks using chlorine solution / tablets.
- 04) Preparing a soak pit.
- 05) Identifying forms of drugs - tablets, capsule, vial, injection, ointment.

- 6) Preparing labels in Marathi for medicine bottles / pills containers.
- 7) Identify 25 useful medicinal herbs in and around the village.
- 8) Correct method of cleaning teeth with brush / twig.
- 9) Preparation of sanitary pads at home.
- 10) Explaining about use of copper T on a model.
- 11) Explaining correct method of using condom.
- 12) Using slide shows for group health educations for at least three topics  
(Scabies! / ARI / Diarrhoea / Women's health / Herbs / Leprosy / Malnutrition).
- 13) Health education in school-classroom for at least three topics, using formats (Choose  
from scabies / lice / ARI / diarrhoea / personal hygiene / care of teeth etc.)
- 14) Keeping immunization records
- 15) Preparing a referral note to health center.
- 17) Explaining about smokeless chulhas to women's groups / neighborhood.
- 18) Reading out properly for adult literacy groups.
- 19) Preparing and fixing a sputum sample on slide for diagnosis of lung tuberculosis.
- 20) Optimum communication and conduct with patients and community.
- 21) Disinfection of instruments, dressings, pads.
- 22) Proper handwash before and after handling infective occasions.
- 23) Taking a blood smear for malaria / filaria.
- 24) Explaining correct dosage and schedule of treatment.
- 25) Keeping minimum useful record of patients.

**\* For male patients only.**

**\*\* For female patients only.**



## ANNEXURE 5

### INTERVIEW SCHEDULE USED IN THE COMMUNITY STUDY

#### A. GENERAL INFORMATION

Name of the interviewer

Form No.

Village

Pada

Name of the Respondent

No. of family members

Caste

#### B. AILMENT AND TREATMENT SOUGHT

1. Had you or any body from your family fallen ill in last one year?
2. Did you take treatment?
3. If yes, with whom did you take the treatment?
4. Did the treatment help?
5. If it helped ,to what extent in terms of a rupee?
6. If the treatment did not help, then whom did you go to?
7. If the treatment was not taken? Reason....
8. Does a mobile doctor come in the village?

#### C. FIRST CONTACT CARE

If anybody falls sick in your family whom do you first go to?

1. Home remedies 2. Vaidu 3. Bhagat 4. Devi Doctor
5. Health worker 6. Govt. Doctor 7. ANM 8. Other
9. Pvt. Doctor 10. Undecided 11. Dist. Hospital

#### D. PREFERENCE TABLE

	Home Remedies	Vaidu	HW	Bhagat	ANM	Devi Doc.	Pvt. Practi.	Govt. Doc.	Dist. Hospt.
Illness									
Reasons									

#### E. ABOUT THE ANM

1. Whether the ANM visits the village?

2. What does she do?

i. Immunization

ii. Advice F.P.

iii. Conduct Deliveries

iv. ANC

v. Give Medicines

vi. Other

## **F. MORBIDITY PROFILE**

1. In your opinion what are the common ailments seen on the village?
2. In your opinion what are the dangerous illnesses in the village?

## **G. ABOUT THE HEALTH WORKER**

1. Do you know Vachan's Health Worker? Can you tell the name?
2. Do you go to the Health Worker for treatment?
3. Which ailments can the Health Worker definitely cure?
4. What are the ailments he/she can not treat ?
5. What are the tasks performed by the Health Worker?
  - A Dispensing medicines
  - B Growth monitoring
  - C Health Education
    - i) Family Planning
    - ii) Smokeless chulhas
    - iii) Immunization
    - iv) Personal Hygiene
    - v) Latrine Construction
    - vi) Other
6. Does s/he examine you?
7. Does s/he explain the ailment?
8. Does s/he follow it up after giving medicines?
9. Does s/he accompany the patient to the hospital in case of emergency?
10. Does s/he attempt gynecological diseases?
11. Do you have any complaints? If yes, please elaborate.
12. Do you have any expectations from the Health Worker? If yes, please elaborate.
13. In what way (s) did the village benefit from the health worker?
14. To what extent (in terms of a rupee) will you rate the above benefits?
15. In you opinion, is the Health Worker is superior or inferior to the mobile doctor?
16. If the Health Worker starts charging fees for the medicines will you be ready to buy them?  
If no, reason.....
17. Has the Health Worker specially helped you any time?

## **H. IF THE HEALTH WORKER IS A FEMALE**

1. Does she examine pregnant women?
2. Does she help the Dai in conducting deliveries?
3. Does she examine gynecological diseases?
4. Does she advice family planning?



# ANNEXURE 7

(DISEASE PLACEMENT TABLE FROM BHART VAIDYAKA MANUAL)

CLASSIFICATION OF SOME WELL KNOWN DISEASES BY CAUSE AND AFFECTED SYSTEM												
NO	ORGAN SYSTEM CAUSE	MOUTH, THROAT, DIGESTIVE SYSTEM	SKIN APPARATUS	RESPIRATORY SYSTEM	HEART AND CIRCULATORY SYSTEM	EYE AND EAR	BRAIN AND NERVOUS SYSTEM	URINARY SYSTEM AND GENITALS	BONES AND MUSCLES	BLOOD	HORMONAL SYSTEM	LYMPHATIC SYSTEM
1.	MICROBES AND PARASITES	Sore throat, diarrhoea and dysentery typhoid jaundice, worms, food poisoning.	Boils, rashes, scabies, lice, ring worms, skin ulcers, injuries, herpes, chickenpox, leprosy.	Lung tuberculosis, coughs, pneumonia, flu, colds, whooping, cough, bronchitis.	Rheumatic heart diseases.	Conjunctivitis, sty, trachoma, dacryocystitis, ASOM, CSOM.	Meningitis, encephalitis, polio, leprosy, rabies, tetanus.	Cystitis, urethritis, nephritis, vaginitis, enereac diseases.	Rheumatic fever, osteomyelitis.	Malaria, septicaemia.	Adrenal tuberculosis.	Encephalitis, tonsillitis, lymphadenitis, cervical adenitis, goitre.
2.	MALNUTRITION	Stomatitis, caries (teeth) swollen bleeding gums.	Obesity, dermatitis due to vitamin 'B' deficiency, beriberi.		Beriberi, atherosclerosis.	Night blindness, keratitis blindness.	Alcoholic neuritis.		Stunting of growth, rickets, osteomalacia.	Anemia.	Goitre.	
3.	DEGENERATIVE CHANGES	Types of colitis, peptic ulcers, gall stones, liver cirrhosis.	Leukoderma, baldness.	Chronic bronchitis.	Hypertension, coronary diseases, valvular diseases.	Senile changes in eyes, (less vision) senile diseases.	Senile dementia, Parkinson's disease.	Urinary stones, prostate enlargement.	Rheumatoid disease, myopathy.		Maturity onset, diabetes, mellitus.	
4.	FUNCTIONAL DISORDERS	Acidity, constipation.		Bronchial asthma.	High or low blood pressure, cardiac arrhythmias.	Some types of deafness.	Some types of involuntary movements.					
5.	STRUCTURAL DEFECTS	Hernia, intestinal obstruction.		Deviated nasal septum.	Varicose veins valve defects.	Myopia, hypermetropia.	Tumors.	Prolapse uterus, tubal blocks.	Fractures, malunited fractures.	Anemia of some types.		

NO.	ORGAN SYSTEM CAUSE	MOUTH, THROAT, DIGESTIVE SYSTEM	SKIN APPARATUS	RESPIRATORY SYSTEM	HEART AND CIRCULATORY SYSTEM	EYE AND EAR	BRAIN AND NERVOUS SYSTEM	URINARY SYSTEM AND GENITALS	BONES AND MUSCLES	BLOOD	HOMONAL SYSTEM	LYMPHATIC SYSTEM
6.	HEREDITARY CONGENITAL (From birth )	Cleft lip, palate absent or closed food pipe, umbilical hernia, closed anus.	Albinism.	Closed or narrow wind pipe.	Some defects of heart valves.	Some causes of blindness, color blindness, some types of deafness.	Deaf and dumb, mongolism, spastic children.	A type of sterility, phimosis of penis.	Dwarfism, Myopathy, brittle bones.	Bleeding tendency.	Cretinism, jaundice diabetes.	
7.	TOXIC AND HABIT FORMING SUBSTANCES	Food poisoning, alcoholism, plant and animal poisons.			Effect of snake venom, on heart.	Blindness due to form -alin mixed liquors, deafness due to streptomycin.	Neurotoxins in snake venom, lathyrism.		Effects of dhatura poison.	Bleeding due to snake venoms.		
8.	CANCERS	Cancers of tongue, throat, food pipe, stomach, liver, intestines, rectum etc.	Cancers of skin, breast.	Cancers of larynx, trachea, lungs.	Cancers of blood vessels.	Retinal cancers.	Brain cancers.	Cancers of penis, uterus, ovary prostate bladder, kidney etc.	Bone tumors.	Blood cancers.	Thyroid cancers.	Lymphatic cancers.
9.	ALLERGIES	Allergic diarrhoea (milk diarrhoea), Allergic stomatitis.	Allergic skin rash, dermatitis, itch.	Asthma.	Rheumatic involvement of heart valves.	Allergic conjunctivitis.						
10.	UNKNOWN AND OTHER CAUSES	Colitis.	Leukoderma, psoriasis.	Asthma.	High and low blood pressure.		Epilepsy, many mental illnesses.		Rheumatism.		Juvenile diabetes.	



## ANNEXURE 8

### ACHIEVEMENTS OF HEALTH ACTIVITIES AT VACHAN : 1987 - 93

ACTIVITIES			ELIGIBLE	ACHIEVEMENTS					
				1987 -88	1988 -89	1989 -92	1990 -91	1991 -92	1993
VILLAGE COVERED	NO.		20	20	20	20	20	20	21
POPULATION	NO.		15953	15953	15953	15953	15953	15953	16370
FAMILIES	NO.		2788	2788	2788	2788	2788	2788	2850
TRAINING OF WLHWS	NO.	C	41	0	11	11	22	20	31
	% ELIGIBLE				27	27	54	49	76
	NO. FAMILIES	C	2788	0	542	542	1306	1115	1806
	% ELIGIBLE				19	19	47	40	63
MATERNAL HEALTH : ANTENATAL CARE	NO. PREGN. WOMEN	A	479	0	0	77	263	317	348
	% ELIGIBLE					16	55	66	73
ANTI-TETANUS IMMUN.		A		0	0	70	197	166	264
						15	41	35	55
ANTI-ANEMIA		A		0	0	63	255	237	257
						13	53	50	54
POST-NATAL CARE		A	447	0	0	37	114	287	253
						8	26	64	57
CHILD WT. MONITORING	NO. U5 CHILDREN	A	2393	0	764	723	1103	1319	1282
	% ELIGIBLE				32	30	46	55	54
CHILD IMMUN. : DPT / POLIO	NO. U1 CHILDREN	A	447	0	0	278	333	368	445
	% ELIGIBLE					62	75	82	100
MEASLES			447	0	0	166	227	368	379
						37	51	82	85
BCG			447	0	0	140	326	286	311
						31	73	64	70
CURATIVE CARE : PTS. BY HWS	NO. OF PATIENTS		-	0	0	5040	7424	9814	14737
REFERRAL	NO. OF PATIENTS		-	0	0	NA	189	247	402
HEALTH EDUCATION	NO. FAMILIES		2788	0	0	940	592	925	221
	% ELIGIBLE					34	21	33	8
WELLS, SANITATION	NO. FAMILIES	C	2788	0	181	94	167	99	218
	% ELIGIBLE				6	10	16	19	27

**NOTES :**

A. C = FIGURES ARE CUMULATIVE

A = FIGURES ARE ANNUAL AS THEY RECUR EVERY YEAR.

B. AFTER 1991 - 92, THE REPORT PERIOD CHANGED FROM JULY - JUNE TO JANUARY TO DECEMBER.

THUS THE FIGURES FOR JULY TO DECEMBER 1992 HAVE BEEN IGNORED IF ANNUAL OR HAVE BEEN ADDED TO 1991 - 92 FIGURES IF CUMULATIVE.

**C. CRITERIA FOR ELIGIBILITY**

- |                           |   |
|---------------------------|---|
| 1. HEALTH WORKERS (WLHWS) | TOTAL POPULATION OF ALL VILLAGES COVERED                                    |
| 2. MATERNAL HEALTH PROG.  | EXPECTED NUMBER OF PREGNANT WOMEN @ 30 PER THOUSAND POPULATION              |
| 3. CHILD WT. MONITORING   | EXPECTED NUMBER OF POPULATION UNDER THE AGE OF 5 @ 15 % OF TOTAL POPULATION |
| 4. CHILD IMMUNIZATION     | EXPECTED NUMBER OF UNDER 15 @ 28 PER THOUSAND POPULATION                    |
| 5. HEALTH EDUCATION       | TOTAL POPULATION OF ALL VILLAGE COVERED                                     |
| 6. WELLS, SANITATION      | TOTAL POPULATION OF ALL VILLAGE COVERED                                     |

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## LIST OF TABLES

**TABLE NO.    TITLE**

**NOTE : THE LETTER 'M' NEXT TO TABLE NO. DENOTES THAT THE TABLE IS INCLUDED IN THE SECTION OF TABLES. OTHER TABLES WILL BE FOUND IN THE TEXT.**

### GENERAL

- 1M : SOME FEATURES OF COMMUNITIES IN VACHIAN VILLAGES.
- 2M : PROFILE OF COMMUNITY HEALTH WORKERS IN VACHIAN PROJECT.
- 2 : PROFILE OF COMMUNITY HEALTH WORKER IN VACHIAN PROJECT.
- 3 : THE DRUG KITS FOR CHWS IN OF VACHIAN PROGRAMME.

### LISTING ILLNESSES

- 4M : OPINION ON SEVERITY AND PREVALENCE AND SEVERITY OF ILLNESSES : RATINGS BY DOCTORS AND CHWS.
- 5M : POOLED LIST OF ILLNESSES : FREQUENCY OF MENTION BY 31 CHWS.
- 6 : COMPARISON OF COMMUNITY MORBIDITY PROFILE BY QUALITATIVE METHODS AND ACTUAL RECORDS.

### PERFORMANCE OF CHWS IN KNOWLEDGE, SKILLS AND ATTITUDES TESTS

- 7M : PERFORMANCE OF CHWS : TEST SCORES BY CHWS BY SUBJECT AND CATEGORY.
- 8M : PERFORMANCE OF CHWS : PERCENTAGE TEST SCORES OF CHWS BY SUBJECT AND CATEGORY IN MCQS TESTS.
- 8 : SCORES (PERCENTAGE) OBTAINED BY CHWS.
- 9M : DIFFERENCE BETWEEN SCORES OF CHWS BY YEARS OF WORK AND SUBJECT.
- 10M : DIFFERENCE BETWEEN TEST SCORES OF CHWS ACCORDING TO SCHOOLING YEARS.
- 11 : DIAGNOSTIC SKILLS : SCORES OBTAINED BY CHWS (22\*) IN SKILLS TEST.
- 12 : THERAPEUTIC SKILLS : SCORES OBTAINED BY CHWS (22) IN SKILLS TEST.
- 13 : OTHER SKILLS : GRADES OBTAINED BY CHWS (22) IN SKILLS TEST.
- 14M : GRADES AND SCORES OBTAINED BY 22 CHWS IN SKILLS TEST.
- 15 : AGREEMENT PATTERN OF CHWS ON VARIOUS ISSUES.

### STUDY OF COMMUNITY OPINION ABOUT CHWS

- 16M : VILLAGEWISE DISTRIBUTION OF STUDY POPULATION.
- 17 : RESPONSES OF THE STUDY POPULATION ABOUT FIRST CONTACT CARE USED LAST YEAR.
- 18M : CHOICE OF FIRST CONTACT CARE AGENCY IN SIX VILLAGE GROUPS\*.
- 19 : COMPARING QUALITY OF CHW SERVICES WITH COMMUNITY PREFERENCE FOR FIRST CONTACT CARE.
- 20M : AGENCY PREFERRED BY COMMUNITY ACCORDING TO TYPE OF HEALTH PROBLEMS.
- 21M : REASONS FOR PREFERENCE FOR CERTAIN HEALTH CARE AGENCY.
- 22M : TASKS PERFORMED BY THE ANM AS DESCRIBED BY THE HOUSEHOLDS.



- 23M : COMMON AILMENTS IN THE VILLAGES AS PERCEIVED BY THE HOUSEHOLDS.
- 24M : 'DIFFICULT' ILLNESSES IN THE VILLAGES AS PERCEIVED BY THE HOUSEHOLDS.
- 25 : ILLNESSES CHWS CAN TREAT OR CAN NOT TREAT - COMMUNITY OPINION I
- 25M : ILLNESSES CHWS CAN TREAT OR CAN NOT TREAT - COMMUNITY OPINION I
- 26 : EVALUATION OF CHW SERVICES BY THE COMMUNITY.
- 26M1 : DO THE CHWS EXAMINE ?
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- 26M3 : DO THEY FOLLOW UP IN ILLNESSES ?
- 26M4 : DO THEY ACCOMPANY THE PATIENT TO THE REFERRAL CENTER ?
- 26M5 : DO THEY TREAT \* GYNECOLOGICAL DISEASES ?
- 26M6 : COMPARING CATEGORY OF CHWS WITH FIRST CONTACT CARE PREFERENCE OF THE COMMUNITY.
- 27M : TASKS PERCEIVED AS BEING PERFORMED BY THE CHWS.
- 28M : COMMUNITY'S EXPECTATIONS FROM THE CHWS.
- 29M : COMPLAINTS EXPRESSED BY THE RESPONDENTS ABOUT CHWS.
- 30M : USES OF HAVING A CHW IN THE VILLAGE - COMMUNITY OPINION.
- 31M : HOW PEOPLE RATE THE EFFECTIVENESS OF CHWS.
- 32M1 : ANTENATAL CARE.
- 32M2 : HELPING DAIS IN CONDUCTING DELIVERIES.
- 32M3 : TREATING \* GYNEC PROBLEMS.
- 32M4 : ADVISE FAMILY PLANNING.

## STUDY OF CHW RECORDS

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- 34M : THE FREQUENCY DISTRIBUTION OF FIRST SYMPTOMS IN 31 CHW RECORDS.
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